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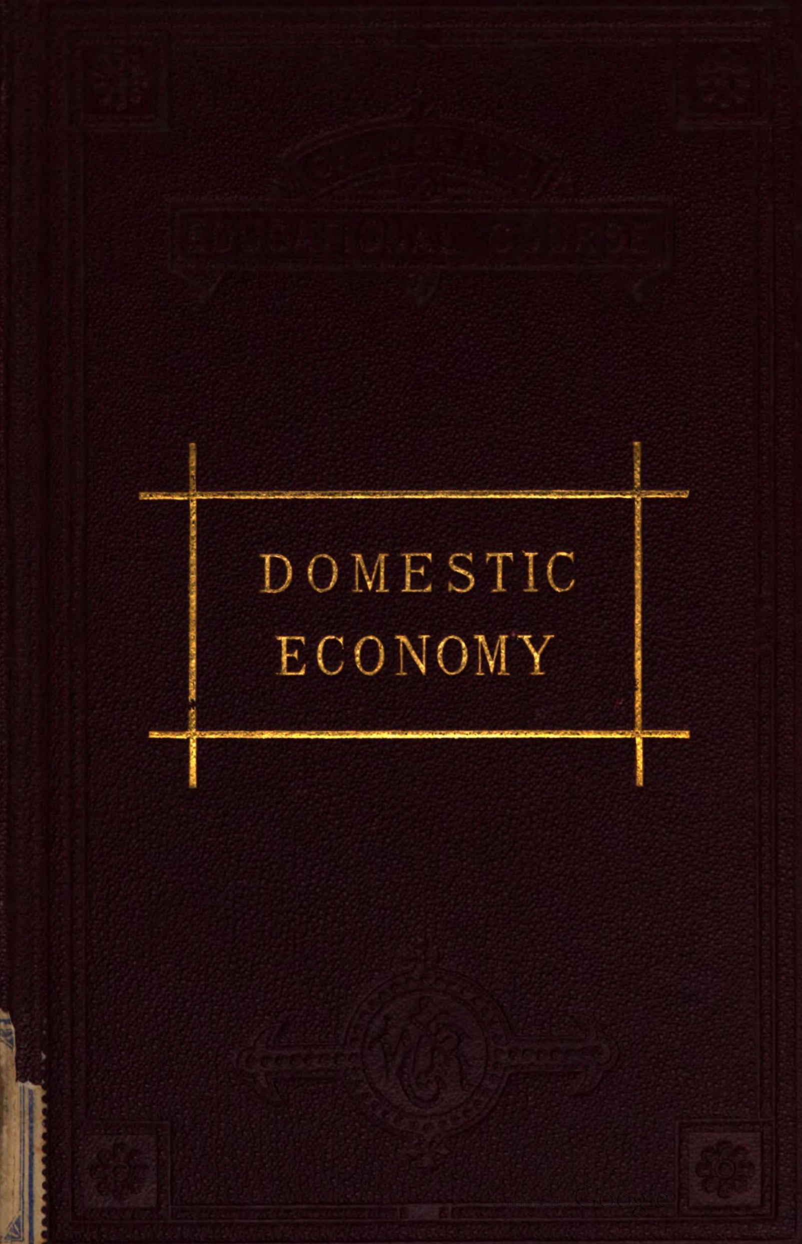

EDUCATIONAL COURSE

DOMESTIC ECONOMY

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CHAMBERS'S EDUCATIONAL COURSE

DOMESTIC ECONOMY

ADAPTED TO THE CODE OF 1880

W. & R. CHAMBERS
LONDON AND EDINBURGH
1880

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PREFACE.

THIS little book on Domestic Economy contains one or two special features. First, Simplicity of language, to avoid presenting at the same time the two difficulties of new ideas and unfamiliar words. Second, The exclusion of many difficult facts in Chemistry and Physiology which neither illustrate nor brighten the subject in hand, and which, to be thoroughly understood, require special teaching; indeed, no merely collateral information has been introduced as to the cultivation of tea, coffee, or cotton, or as to manufactures. Third, While everything required by the Government Code is included, some additions are made as being highly useful, though not needed for the inspector.

In order to make the contents of the book really a possession of the children, it is recommended that the Teacher should read, or make the children read to her, whatever is to be prepared at home for the following lesson. While this is being done, she can remove any obscurity or difficulty by interrogation or conversational explanation. Thus there will be ample scope for illustration drawn from her own experience.

At the best, a book of this kind is but a help; Domestic Economy is eminently a *practical* subject, and can only be learned satisfactorily by means of practical instruction.

The book is also issued in three parts:

PART 1. Clothing and Washing—Food, its Composition and Nutritive Value.
" 2. The Dwelling—Food, its Functions.
" 3. Rules for Health, &c.—Cottage Expenditure—Food, its Preparation.

I. S. B.

CONTENTS.

PART I.

PAGE
Introduction 5

CLOTHING.

I. The Use of Clothing 5
II. Sources of Clothing 7
III. Various Kinds of Clothing 8
IV. Choice of Clothing 11
V. Care and Repair of Clothing 13
VI. Washing: Utensils 16
VII. Materials used in Washing 17
VIII. Directions for Washing 18

FOOD.—DIVISION I.

I. Nature and Composition; Nutritive Value 23
II. Comparative Value of Solid Foods 26
III. Comparative Value of Liquid Foods 30

PART II.

THE DWELLING.

I. Choice of a House 35
II. Warming 38
III. Lighting 41
IV. Cleaning 43
V. Cleaning of Cooking Utensils 46
VI. Occasional Cleaning 49
VII. Ventilation 51
VIII. Furniture 53
IX. Household Hints 56

FOOD.—DIVISION II.

I. The Functions of Food 59
II. Diet 62

PART III.

HEALTH AND SICKNESS.

I. Health 67
II. Simple Cures for Slight Ailments 75
III. The Sick-Room 77

INCOME AND EXPENDITURE.

I. Income and Expenditure 80
II. Savings 82

FOOD.—DIVISION III.

I. How to Choose and Keep Meat 84
II. How to Choose Fish and Poultry 87
III. The Cooking of Meat 89
IV. Vegetables 92
V. Bread 96
VI. Tea, Coffee, and Cocoa 97
VII. Cooking Utensils 98

APPENDIX.

Receipts 100

DOMESTIC ECONOMY.

PART I.

INTRODUCTION.

DOMESTIC ECONOMY—that is, HOME MANAGEMENT—is a branch of study which gives us many of the rules most useful to those who have any charge of housekeeping. It discusses the choosing and mending and washing of clothes; points out the various kinds of food, and the best ways of preparing them, so as not to waste money; shews us the need for keeping the house clean and airy, so as to preserve the health of those that live in it; and tells how to nurse the sick in time of illness.

CLOTHING.

I.—THE USE OF CLOTHING.

1. The reasons for the use of clothing differ in different parts of the world. In cold climates, we have to preserve the natural heat of the body from being stolen away by the chilly outer air and wind; and in hot climates, we have to protect ourselves from the burning rays of the sun. The human body, when in health, is found to have the same degree of warmth at all times and in all places (98°), and, without this degree of heat, life cannot go on—a very little more or less destroys it. In this country, we have seldom to think of sheltering ourselves from heat. Rather is it necessary to devise means for keeping ourselves from exposure to cold. For this end, we build houses, we burn fires, and we wear clothes.

2. Clothes do not *make* us warm; they only *keep* us warm. The living body produces its own heat. Many movements go on inside us without our thinking of them, such as digestion of our food; and these, by means of the food we eat and the air we breathe, keep up our supply of heat. It is to keep this heat from escaping out of our bodies that we wear clothes. We cannot altogether prevent it from escaping, for heat always keeps passing from warm bodies to the colder ones that are near them; but we can manage things so that the heat shall not get away faster than it is made for us inside. Some substances have been found by experience to let heat pass through them very easily and quickly; these would not do for clothes. Others let the heat get through very slowly, and so these are generally used among us as materials for clothing.

3. Down and furs are by far the *warmest* of all coverings, but they are not suited for the ordinary purposes of clothing, and are, besides, too expensive for most people. Fortunately, the next best preserver of heat is a substance which is within the reach of all—namely, wool; and all clothing, the first object of which is warmth, should be made of wool in one form or another. Cotton and linen are not so good as wool for preserving heat, but they are good substitutes for it, and are even more serviceable for some purposes. It is important to know that any substance in a loose porous state preserves heat better than in a more solid state; worsted which is much twisted does not make such a warm stocking as looser yarn. So also flannel which is loose and porous, keeps in the heat of the body better than the same quantity of wool made into a hard compact cloth. The same may be said with regard to cotton fabrics—coarse, loosely woven calico being much warmer than fine long-cloths, and so on. Especial care should be taken to protect infants and very old people from cold, for death is often caused simply by want of a sufficient degree of heat. Nothing but flannel or some other woollen clothing can be an adequate protection to either of these classes. And young children, generally, ought to have the entire body thoroughly covered; the common notion

that children are made hardy by exposure to cold is a false one.

4. The *colour* of clothing, so far as warmth is concerned, is a matter of indifference, unless we are exposed directly to the sun. When the sun's rays fall on black cloth, they are all *absorbed* (drunk up) by it, and the cloth soon becomes much heated. White cloth *reflects* (throws back) a part of the rays, and therefore becomes less heated than a dark-coloured cloth. If we are exposed to the sun then, and wish to be cool, we should wear white linen or muslin, and avoid dark colours. Those who are much exposed to a burning sun wear a white covering on the head, to guard against sunstroke.

QUESTIONS.

1. What is the use of clothing?
2. What is it that gives us heat?
3. What substance is most generally used as a preserver of heat? In what state does it form the warmest clothing?
4. When must we think of the colour of our clothes?

II.—SOURCES OF CLOTHING.

1. The animal and vegetable worlds supply us with the materials for clothing. From the former we get wool, fur, leather, and silk; from the latter we get linen and cotton.

2. **Wool.**—The wool and hair of sheep and goats have been used to make materials for clothing from the earliest times. The wool is shorn from the animal in early summer. It is then washed, and spun into worsted or yarn. The yarn is afterwards woven into cloth-stuffs for dresses, flannels, and blankets.

3. **Fur.**—The skins of other animals—such as the fox, sable, and ermine—are used as clothing without removing the hair. They are a very valuable protection against cold.

4. **Leather.**—Some animals—cows and oxen, for example—have short stiff hair and tough hides. These skins are unsuitable as fur, but they supply us with leather. The hair is

scraped off. The skin is tanned, made soft, and becomes almost waterproof. It is then used for boots, shoes, leggings, &c.

5. **Silk.**—Silk is produced by the caterpillar of the silkworm moth. When it has reached its full growth as a caterpillar, it forms round itself a flossy covering of silk. This is called a cocoon. Each cocoon is made of an unbroken thread about eight hundred feet long. This flossy silk is wound off on to reels; then it is tied into hanks. In this state it is called *raw* silk. Lastly, it is woven into various fabrics—silk, satin, velvet. Silk is the dearest material for clothing.

6. **Linen.**—Linen is made from the fibres in the stalk of the flax-plant. It is very strong and durable. It is less generally used than formerly, and now chiefly for shirt fronts, collars, and cuffs.

7. **Cotton** is a downy substance which covers the seeds of the cotton-plant. It is spun into yarn, and then woven into calico. This is much better adapted for underclothing than linen, from its greater softness and warmth. It is also much cheaper.

QUESTIONS.

1. From what do we get materials for clothing? Name the materials got from the animal world. Name those got from the vegetable world.
2. How is yarn made from wool?
3. Name animals from which fur is got.
4. Why is the skin of the ox made into leather? How is it done?
5. Tell what you know about the work of the silkworm caterpillar. What is raw silk? Name the materials made from silk.
6. From what plant do we get linen?
7. Why is cotton better adapted for underclothing than linen?

III.—VARIOUS KINDS OF CLOTHING.

1. **Underclothing.**—As our climate is very changeable—even in summer the mornings and evenings are often chilly—it is well to wear something woollen next the skin. In winter,

this vest must be thick, and fit close to the body, to prevent the cold air from getting underneath it. In winter, woven or knitted garments are better than those made of flannel. In summer, the vest may be much lighter and looser. Over this under-flannel, garments made of calico are usually worn.

2. **Intermediate Clothing.**—In winter, this should undoubtedly be woollen both for men and women; but at other seasons, calico may be substituted for women, and linen or calico for men. However, it is really more healthful, above all in our changeable climate, that the intermediate clothing be of wool at all times—thick and of close texture in winter, and very light in summer.

3. **Outer Clothing.**—We ought to have some outer garment which we can wear above the dress or throw aside just as we feel cold or hot—a jacket, or shawl, or coat. This should be made of wool in summer as well as in winter. In the house, our clothing must be different from what we wear out of doors, but this difference should be chiefly in the outer garment.

4. **Head Covering.**—This should be light, of such a shape as to protect the head from the direct rays of the sun, and sufficiently warm to protect it also from cold winds. If possible, it should keep the eyes from the glare of the sun—therefore hats with brims are by far the best. Hats and bonnets may be made of almost any material, but those in common use in this country are generally either felt, which is made of wool and hair, or straw. Felt hats are rather too warm for men who have much bodily exercise in the open air, and consequently wear their hats for many hours each day. If worn, they ought to be provided with one or two little holes in the crowns to allow of a constant supply of fresh air, which will keep the head from becoming overheated. Hats and bonnets of straw are generally considered better for the health than those of any other material, and though they may cost a little more to begin with, they last longer and are thus more economical in the end.

5. **Covering for the Feet.**—The feet generally perspire freely. They should have woollen stockings, which take up the moisture thrown off by the feet, and keep them from getting cold; and

strong thick-soled boots or shoes to protect them thoroughly from the outer cold and damp. Boots and shoes must not be tight. Pressure, especially round the ankle and instep, stops the circulation of the blood and makes the feet cold. The soles should be broad and square at the toes, and made as nearly as possible to correspond with the shape of the foot. Otherwise, the toes, which are unnaturally pressed together, become deformed, and sooner or later diseased. Corns and bunions are the painful and only too common results of wearing boots and shoes with pointed toes and narrow soles.

6. **Night-clothing.**—We must also pay attention to the clothing worn at night. 'Keep the head cool and the feet warm,' is a good old rule. Besides the usual garment made of calico, we require other covering—sheets and blankets. These should be light and moderately warm. The counterpane should either be equal to a blanket in weight, or a blanket ought to be substituted for it at night, and a thin light covering like a sheet thrown over it. The number of blankets used must vary with the weather and season. As young children and old people are often restless at night, a flannel jacket is useful. This prevents the body from getting chilled, should the bedclothes be thrown off during sleep.

QUESTIONS.

1. Why should we wear warm clothing nearest the skin?
2. What is meant by intermediate clothing?
3. Name some outer garments.
4. What advantage is there in a hat with a brim?
5. Why do you recommend woollen stockings? What harm may be done by tight boots?
6. Give the old-fashioned rule for night-clothing. Of what use may a flannel jacket be at night?

IV.—CHOICE OF CLOTHING.

1. In buying materials for clothing, it is of great importance to remember that our chief care should be for the health and comfort of the body. Then we must not forget that our clothing ought to be suitable to our means and station in life. But we must on no account buy cheap things *because* we are poor. Cheap qualities of things are seldom good. They wear out quickly, and require to be renewed very soon. What may have appeared a 'great bargain' at first, often disappoints us. Probably *two* cheap dresses will not wear as long as *one* made of a really good material. Besides they will never look so well, even when new. If it be also taken into account that we have to pay for the making of two dresses, instead of for the making of one dress, it will surely be allowed that our cheap bargains have been far from a saving. It is better, and really more economical, to wait and contrive a little, and then to buy the best quality of the material we want.

2. Unbleached calico should be bought rather than pure white calico. It is cheaper and much stronger. Unbleached calico gets white after repeated washing, and the fibres of the cloth are not weakened by the lime and other substances which are generally used in cotton factories to hasten the process of bleaching.

Welsh flannel is the best. Union flannel is stronger and cheaper, but it does not wash so well, being a mixture of cotton and wool. Red and dark-blue flannels are better for petticoats than white flannel. They keep longer clean; but care should be taken to have them frequently shaken, so as to remove loose dust.

3. In choosing a dress, it is economical to take a material that looks well on both sides—wincey, coburg, alpaca, &c. When one side is worn or faded, the dress can be turned, and thus made almost as good as new.

4. In cutting out any article of dress, it is important to leave large *lays*—that is, to cut the material fully an inch larger than the pattern. This leaves room for alterations. It ought also to be remembered that a dress or jacket should be made comparatively loose for the wearer. If clothes are made tight, the material is strained, and soon begins to look shabby. Often the seams give way. This makes the dress, &c., useless, unless it be made down to fit some younger or smaller person. At the hem of a skirt, and also round the top, a piece should be laid in. This is useful in case the material should shrink, and the skirt require to be lengthened, or in case of the material getting frayed at the hem or round the gathers. When the skirt of a dress is no longer good enough for outer wear, an upper petticoat may be made of it. As petticoats ought not to be either so wide or so long as dress skirts, any very shabby part of the material may be removed, and still sufficient left for a good petticoat.

It is well to keep any small pieces or cuttings of the different materials of which our clothes are made, so that we can mend them tidily, each with a piece of its own stuff. When the clothes are quite worn out, patchwork bed-covers can be made of any pieces that remain—summer ones of cotton prints, and warm winter coverlets of woollen materials.

5. The duties of the wearer must also be thought of. Clothing intended for *work*, either at home or in service, should be of such material as will stand repeated washing. In summer, print dresses are the best, but one must be careful to choose prints in which the colours are well stamped, and which will wear well and look well till the last. Lilac and brown are colours which generally wash very well. For winter wear, a good gray or brown wincey is recommended. It is strong, and wears well; and as the wool is not dyed, it also washes well. It is never hurt by exposure to weather.

6. It is well to have a sufficient change of underclothing, especially of those garments which are worn next the skin, so that they may be repeatedly washed. Nothing should be allowed to get very dirty. The extra boiling and rubbing it

needs to make it quite clean again hurts and wears out the cloth. A constant change of underclothing is also important for the health.

7. It may be well to say a few words here on *aprons*, though they do not form part of our clothing properly so called. It is important that every woman and girl should have a supply of aprons of different kinds—coarse linen or hard wincey aprons for the rougher and dirtier parts of her household work; and others made of printed calico, muslin, or alpaca, for wearing when work is done. Aprons protect the front of the dress from spots of grease or from being singed while one is cooking, and indeed from many little accidents which are constantly occurring.

QUESTIONS.

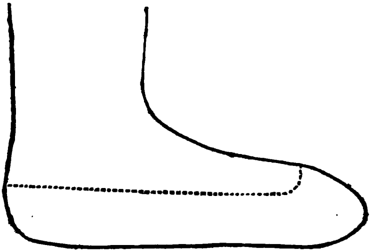
1. What ought to be the chief consideration in buying clothes? Tell the advantages to be derived from buying good material.
2. What is the best kind of calico? Why is Welsh flannel the best?
3. What kind of dress materials are the most economical?
4. What happens if a dress be made too tight? How can a skirt be lengthened? Of what use are small cuttings of cloth?
5. What kind of stuff would you recommend for working gowns? Why would you prefer a gray or brown wincey to any other?
6. Why should we have sufficient change of underclothing?
7. Of what materials should aprons be made?

V.—CARE AND REPAIR OF CLOTHING.

1. **The Good of Mending Soon.**—A great deal can be done to keep one's clothes in good order, and to make them last long and look well to the end. 'A stitch in time saves nine;' 'Want of stitches, waste of riches,' are proverbs which ought to be laid to heart. Clothes will last twice as long if properly mended and taken care of. Not even a little hole should pass; it takes less time to mend, and is much more easily done than when it

is big. When the material is beginning to wear thin, it ought to be strengthened by darning, or by putting a piece of the same behind it. Holes are thus often prevented altogether.

2. **Stockings and Socks.**—Of all we wear, nothing needs such constant attention as stockings and socks. Every time they are washed they must be carefully looked over, and every little hole or thin part must be darned. The toes and heels wear out most quickly. In woven stockings, these parts are generally made of double thread. In stockings knitted at home, they should be run with cotton or worsted, to strengthen them. Hand-knitted stockings are the most economical, as they can be *footed* once or twice. There is so much less strain on the leg, that it generally wears as long as two or even three feet. New heels and toes can also be put in separately (grafted) by good knitters, when the old ones are too much darned to be comfortable. This saves much of the time required to renew the foot entirely, and is often all that is needed. The part of the foot between the heel and toe seldom wears thin. In knitting stockings, the sole, with the heel and toe, may be made separate, and then sewed in. One or two pairs of soles might with advantage be made for each pair of stockings. They would then be ready to replace the old worn soles, heels, and toes when required. This is always done in Italy, and also in some parts of Switzerland and Germany.



3. **Boots and Shoes.**—If possible, it is well to have two pairs of boots or shoes, so that one pair can always be thoroughly

dry when you put them on. This is important for health, as well as good for the shoes, as nothing spoils them so quickly as being worn when damp. The soles get soft, and the whole shoe loses shape. Shoes must not be put near the fire to dry. This is apt to harden the leather and crack the soles. The laces should be tied together, the shoes hung up, and the air allowed to get all round them. If left lying on their soles, the moisture, which cannot soak into the floor, gradually soaks through the soles into the inside of the shoes. It is then difficult ever to make them quite dry again. If the leather has been hardened by sea-water, or by hurried drying near the fire, it may be softened by being rubbed once or twice with grease of any kind. Like clothes, boots and shoes must be carefully looked to and mended whenever they need it. If the soles and heels are allowed to go too far, they do not mend satisfactorily, and are seldom worth the money paid for the repair.

4. **Dust and Damp.**—Clothes should be well shaken and brushed before being folded up and put away; dust eats into the material, especially if it be woollen, and soon destroys it. Neither must clothes be put aside if they are damp—the least dampness causes mould and mildew.

5. Every girl ought to learn the different kinds of sewing—hemming, felling, gathering, stitching, whipping, making button-holes, and darning. Then only can she make her clothes and take proper care of them. Plain knitting for stockings, socks, and vests is very useful, indeed necessary, for all women to learn thoroughly. *Cutting-out* is much more difficult to learn, but experience is a good teacher, and one whose lessons ought always to be laid to heart. No general directions can be given either for *cutting-out* or *mending.* The work must be guided by common-sense and the material at one's disposal.

QUESTIONS.

1. What do you mean by 'a stitch in time saves nine'? How would you strengthen a thin place in any garment?

2. What parts of a stocking wear out first? How do we prevent this? Which are the more economical, hand knitted or woven stockings? Why? What is grafting? What is its advantage?
3. What reasons would you give for having two pairs of boots? Give directions for drying boots. How do you soften leather when it has got hardened?
4. What harm is done to clothes by dust? By damp?
5. Name the different kinds of sewing. What does a knowledge of sewing help a girl to do?

VI.—WASHING: UTENSILS.

1. **Wringing-machines** are now used by nearly everybody. They save time and hand-labour; they do the clothes less harm than wringing by hand, which is apt to overstrain the material and crack threads here and there. The wringing-machine does its work well, and is of great use in towns, where back-greens and courts for drying clothes are generally small and not very airy. The clothes must be put between the rollers regularly—not a thick part forced through, and then something quite slight allowed to slip through any way. Nothing hard should pass through the wringing-machine. Strings must not be allowed to get entangled in the side wheels or axles. Every part of the machine should be dried before it is put aside, and the rollers covered with a towel, to keep them clean.

2. **Clothes-line, Pegs,** and **Poles** ought to be kept in a clean, dry place, and never left out of doors when not in use. Rain dirties and rots them. In taking in clothes, an apron with a large pocket should be worn. The pegs can be dropped into this, instead of being thrown down on the ground.

3. The **Ironing-blanket** and **Sheet** ought to be very clean and smooth. They must be firmly stretched over the table, and pinned at each corner, before the work is begun. They ought to be carefully folded up and put away with

4. The **Shirt-board.** This is a piece of deal wood, about one inch thick, nine inches broad, and fourteen inches long. It is

covered with flannel (two or three layers), and is used to iron the linen fronts of shirts upon.

5. **Flat-irons** are commonly used in Scotland. If heated in front of the fire, they must be cleaned either on sand-paper, or on the back of the knife-board, with a little bath-brick, and well dusted before being used. Should an ironing-stove be used to heat them, they seldom need more than thorough dusting.

Box-irons can always be kept bright and free from dust, as the heater is put into the fire, and the steel case need never go near it.

QUESTIONS.

1. State the advantages of a wringing-machine. Give directions for its use.
2. How should the clothes-pegs be gathered?
3. How should the ironing-blanket be fastened?
4. Describe the shirt-board, and tell its use.
5. How do you clean flat-irons?

VII.—MATERIALS USED IN WASHING.

1. **Soft Water.**—The most important thing for washing is plenty of *soft water*. Rain water is the softest of all waters, and therefore the best for washing purposes. But if this cannot be had, we can make *hard* or spring water *soft*, by boiling it for some time, or (which is the easier and surer way) by adding soda, or washing crystals.

2. **Soda** is of great use in washing, for, besides softening the water, it dissolves grease and dirt, and makes less rubbing necessary. But it must be used in moderation, as it weakens the material, and also gives to white clothes, when ironed or heated in any way, a yellow tinge which it is difficult to get rid of. **Borax** is much the same as soda in its action, and is preferable for fine materials, as it is less hurtful to the cloth.

3. **Soap** is a mixture of soda and fat or oil. This fat or oil keeps the soda from injuring the clothes, while it does not take away

its cleansing power. New soap and all the common kinds contain a good deal of water, which makes them very soft, and causes them to dissolve quickly. The best soap is by far the cheapest in the end, and should be *old* when used. It is well to buy several bars at a time. Cut them with wire or hard twine into convenient pieces, and keep in a dry airy place.

4. **Blue** is prepared from indigo, a plant grown in India, which produces a fine dye. It is put into rinsing waters, to counteract the yellowish tinge which soap and soda give to clothes, however carefully they may be used.

5. **Starch** is a floury substance obtained from the water in which ground wheat or bruised potatoes have been steeped. It is used to stiffen linen and muslin.

QUESTIONS.

1. How can hard water be made soft?
2. Of what use is soda in washing?
3. What is the most economical way of buying soap?
4. Why is blue put into rinsing water?
5. For what is starch used?

VIII.—DIRECTIONS FOR WASHING.

The following hints and directions may be a help to those who have to manage the weekly washing. There is, however, much connected with a washing that can only be learned by *seeing* and *doing* under personal superintendence.

1. **Remarks on Washing.**—It is important to wash clothes as often as possible. Dirty clothes kept for weeks are hurtful to health, as the smell from them taints the air, above all in a small house; and they are besides much more difficult to clean the longer they are left dirty. The dirt gets into the fibres of the cloth, and causes a bad yellowish colour which no amount of rubbing will change. All stains should be removed at once without waiting for the washing-day. Fruit stains are readily

cleaned by a little acid, vinegar, or lemon juice, and if very dark the addition of bleaching-powder, great care being taken to wash thoroughly in plenty of clean water. Ink stains should be wetted with clean water, and a little salt of lemon or oxalic acid rubbed in quickly and immediately rinsed. An ink stain becomes iron-mould if touched with water in which there is either soap or soda.

Everything ought to be dried before being put aside for the wash. Damp causes mildew stains, which rot the cloth, and are almost impossible to remove.

2. **The Washing-day.**—Everything must be ready for the washing the day before. Tuesday is a common washing-day, as it gives time for the necessary preparation on Monday, and allows everything to be finished without hurry before the end of the week. Look over all the articles to be washed, and mend any which need it. Stockings alone should be mended *after* the washing. Then separate the different kinds of things—white clothes, coloured clothes and flannels—as each kind must be washed in a different way.

3. **White Clothes.**—Many cotton and linen articles of clothing ought to be soaked over-night. Dissolve a little soda in a tub of warm water, and put the clothes in one by one, gently rubbing a little soap on the dirtiest parts—neck and wrist bands of shirts, for example. Next morning light the boiler fire early, and the water will be ready for you by the time you have washed the clothes. This must be done in warm water, first on the right side and then on the wrong. Rub one part of the garment against another part, and not against the bare hand or wrist. Then put the clothes (not too many at once) into the boiler, with a little soap cut down small, and let them boil about a quarter of an hour. When the water has been once made to boil, very little fire is needed to keep it at the boiling-point. It is merely waste of coal to have it boiling furiously. It is not really hotter than when simmering, and there is, besides, the great disadvantage of filling the room with steam. If the boiler is of iron, it is a good plan to boil the clothes in a bag, to prevent their

being stained with iron mould. Then rinse the clothes thoroughly in two waters, the second of which is tinged with blue. Wring as dry as possible and hang out on the clothes-line. Linen articles are better not wrung, but put on the line dripping wet; this makes them stiffer, and they take on a better gloss when mangled and ironed. A washing-board is a great help in washing coarse material or very dirty kitchen towels and the like.

4. **Coloured Clothes.**—Make a thin lather with soap and warm soft water, taking care to use no soda. Wash quickly; rinse in two waters, with a handful of salt in the second water to preserve the colours. Wring, and dry as quickly as possible. If left long wet, all colours, even those called 'fast,' are apt to 'run.'

5. **Flannels.**—As flannels shrink and harden when soap is rubbed on them, it is better to boil the soap in a small pan and with it to make a thin *hot* lather. Shake the flannels well to get rid of any loose dust, and plunge them into this lather. Wash carefully, and rinse them repeatedly in warm waters till quite clean from soap. Squeeze, rather than wring them, and dry them off as quickly as possible. Shake them often while drying.

6. **Folding.**—Bring in any white clothes which are to be mangled before they are quite dry. If any parts are thoroughly dry, damp them by sprinkling lightly with water. Fold everything very even, and take care to keep linen and cotton things apart, as well as rough and smooth. For instance, it would not do to mangle a coarse towel with a pillow-case, as the latter would be marked by the roughness of the towel, and so on. After mangling, table-linen and body-clothes are generally ironed over. This makes them still more smooth, and removes any creases they may have got in the mangle. It also helps to dry them, but it is not sufficient of itself. All clothes must hang for some time near the fire in order to 'air' them thoroughly before they are laid past.

Flannels are neither mangled nor ironed—bands of petticoats, or strings, however, are the better of being run over.

7. **Starching.**—Break the starch with cold water, and add boiling water by degrees till the starch changes colour. When ready for use, it should be clear and of a bluish shade. A small piece of loaf-sugar will make the starch *clearer*, and a little mutton suet put into it will keep the irons from sticking to the articles. Instead of adding the mutton suet, some people stir the starch for a minute with a wax candle—some put in a very little butter—while others use the glazing-balls sold for the purpose. Have the articles to be starched quite dry. Put them into the hot starch. Let them soak for a few minutes, and then squeeze them out. They should be well *clapped*—that is, beaten between the hands, so that the starch may penetrate to all parts of the articles. While doing this, the hands ought to be washed several times, to free them from any bits of starch which stick to them. The articles should now be folded smoothly in a cloth, ready for ironing. Leave them in the cloth till partly dry. Linen collars and cuffs, &c., must be wiped over on both sides with a damp rag. This takes away any rough particles of starch which would otherwise stick to the iron and keep it from ironing smoothly.

8. **Ironing.**—Iron lightly on the wrong side of the article, and finish with heavy pressure on the right side. This gives the necessary gloss. In ironing a shirt, the back, shoulders, and neck-band should be done first. Then the wrist-bands and sleeves. Next, the shirt-board is placed between the back and front, and the front is ironed upon it. The board is left in its place till the other parts are ironed. These directions only apply to starched things. Articles which have been mangled merely require to be ironed on the right side.

9. **American Plan.**—In America, there is another way of washing white clothes which saves both time and labour. Half fill the boiler with water, adding as much soap cut down as will make a strong lye, and also a small piece of soda. When it is thoroughly boiling, put in the clothes *dry*, as many as the water will cover. Begin with the finest and least soiled things. Let them boil quickly for ten minutes; then lift them out with

a stick into the tub, and rub where it is needed. Very little rubbing is required, as the hot lye removes the dirt very thoroughly. The clothes must be well rinsed, first in warm water and then in cold water, the latter tinged with blue. Before putting in the second boilerful of clothes, add a little water, and enough soap to keep up the strength of the lye, and proceed as before directed. Be very careful to have the lye *boiling*, and the clothes, however dirty, quite *dry*, when put into it. Thorough rinsing is also necessary, to take out all the soap and soda.

These directions must be followed attentively, else the result will be to fix the dirt in the clothes so as to make it difficult, if not impossible, ever to wash them clean again. This way of washing is very satisfactory for dirty kitchen towels; it loosens the grease at once, and saves much hand-labour.

10. **Directions for Washing Blankets.**—Make a thin hot lather with boiled soap. Shake the blankets thoroughly. Plunge them one by one into the lather. As they are too heavy to be rubbed by the hand, tramp them with the bare feet. This movement completely loosens the dirt. If the blankets are very dirty, wash them in a second lather, which may be thinner than the first. Then rinse repeatedly in warm waters, till all the soap is washed out of them (this keeps the blankets soft). Wring and shake them well. Be careful to hang them evenly on the line. As it is important that blankets should dry *quickly*, choose a bright airy day. If they are long wet, blankets are apt to shrink.

QUESTIONS.

1. Why should washing be done often? How do you remove fruit and ink stains?
2. Why is Tuesday a good washing-day?
3. Give directions for washing white clothes. How can you prevent an iron boiler from staining the clothes? Why do we not wring linen articles?
4. What happens if coloured clothes are left wet?

5. How do you wash flannels?
6. How do you prepare clothes for the mangle? What is meant by 'airing' clothes?
7. How is starch made? How do you know when it is ready? Name some things put into starch to keep the irons from sticking. Why do we wipe linen collars and cuffs with a damp cloth?
8. How should they be ironed? Describe carefully the process of ironing a shirt.
9. What is the American plan of washing? What is its advantage?
10. How should blankets be washed?

FOOD.—DIVISION I.

I.—NATURE AND COMPOSITION; NUTRITIVE VALUE.

1. Before speaking of the various ends that our food serves, and the value of the different kinds of food, we must first consider what ingredients all food is made up of. No article of food consists solely of one substance. Bread, for instance, is made up of several distinct substances, very different in their qualities, and capable of being separated and shewn apart, each from the other.

Chemists have found that there are only between sixty and seventy substances that cannot be split up into anything simpler than themselves. These are called simple substances or elements, and of these the endless variety of things in this world is built up.

Our food consists chiefly of substances which have formed part of living bodies, either animals or plants. Animals cannot live on minerals or other simple substances; plants can. With their roots, plants suck up water in which mineral substances have been dissolved, and so increase their bulk. Then plants form the principal food of the animals we eat, and alone build up their bodies. When we eat the flesh of animals, we are but using, at second-hand as it were, matter which was first manufactured by vegetable life.

The substances from which our food is derived may be divided into two classes—the *nitrogenous* or *flesh-forming*, and the *carbonaceous* or *heat-giving.*

2. **Nitrogenous Foods.**—These foods are called nitrogenous, because they contain *nitrogen*, the element of which the air is chiefly composed. In nitrogenous foods, nitrogen is not the largest ingredient; but the presence of nitrogen distinguishes them from all the other substances which are used by us as food. They are the only flesh-forming foods—compounds containing nitrogen being alone able to build up and repair the muscles, sinews, and membranes of the body. Hence they alone are nutritive in the proper sense of the word. These foods contain fibrine, gluten, albumen, casein, or gelatine, or are compounds of two or more of these substances.

Fibrine forms a great part of the flesh and blood of all animals. *Gluten* is a sticky substance found inside the husks of all grain plants. *Albumen:* White of egg is pure albumen. The same substance is found in all kinds of flesh, much more in that of red-blooded animals than in fish. *Casein* is the solid part or curd of milk. Cheese consists largely of casein. *Gelatine* is a jelly-like substance found in the bones of meat and in the flesh and bones of fish. Gelatine contains less nourishment than any other flesh-forming food.

3. **Carbonaceous Foods.**—In almost all solid substances there is a part that will burn. This is called *carbon.* Warmth-giving foods—starch, fat, and sugar—contain more carbon than other foods. Therefore they are called *carbonaceous* foods. Oxygen is that part of the air which makes things burn. Substances containing carbon consume or burn away if exposed to the action of oxygen. The carbon which we eat in these foods burns away under the influence of the oxygen which we breathe in the air. The two combining give us heat, and also yield the *energy* or strength by which we move and do work.

Starch is found in all grains, as wheat and rice; and in some vegetables, as potatoes and peas. *Fat* is found in animal as well as in vegetable foods—meat, fish, milk, butter, cheese, olives, cocoa-nut, &c. *Sugar* is chiefly found in vegetable foods. The sugar-cane yields pure sugar in large quantities; and other plants—fruits and vegetables—have it in a greater or less degree.

4. **Mineral Elements in Food.**—There are several mineral substances which cannot in themselves be called foods, but which, nevertheless, form part of most of the food we eat. Certain salts are necessary to the healthy condition of the body, and are abundant in most vegetables and fruits. *Common salt* is found in every part of the body. There is more or less of it in everything we eat and drink; and to this we add considerably in cooking. *Lime* in various forms is also found in nearly all articles of food, and is particularly useful in forming and strengthening the bones. But the most important mineral ingredient of food is *water*. Life cannot go on without its presence throughout the body. Water is constantly passing off from the body in one form or another, and the supply must be as constantly kept up. Water is taken into the body in all fluids used as drinks (except oils). Further, all our so-called solid foods contain a large proportion of water; for example, beef contains fifty per cent., or one-half of its weight; poultry, fish, eggs, about seventy-five per cent., or three-quarters of their weight; potatoes about the same; and so on.

QUESTIONS.

1. Of what kind of matter is our food composed? Name the two classes of foods, and explain the terms.
2. Which supply us with nourishment, properly so called?
3. Of what use are the carbonaceous foods?
4. Name the principal mineral substances found in food, and give their uses.

II.—COMPARATIVE VALUE OF SOLID FOODS.

1. **Animal and Vegetable Foods.**—Though foods are divided into carbonaceous and nitrogenous, most common articles of food contain a mixture of both sorts. Nor do we find that the flesh-formers are got from animals only, and the heat-givers from plants; vegetable substances produce both classes of foods, and so do animal substances. The principal solid articles of food may be arranged as in the lists below.

Flesh-forming Foods.

ANIMAL—	VEGETABLE—
Meat.	Flour.
Fish.	Oatmeal.
Poultry.	Peas.
Eggs.	Barley.
Cheese.	Rice.
	Maize, &c.

Heat- or Energy-producing Foods.

ANIMAL—	VEGETABLE—
Butter.	Sugar.
Dripping.	Treacle.
Lard.	Oil.
Fat.	Starch.

The two kinds, animal and vegetable, are equally good as food. The vegetable body-warmers contain more water, and are consequently less solid. They are best suited for those who have little bodily exercise and fatigue. The animal fats are stronger warmth-givers, and are the best kinds for hard-working men, and for any one who is much in the open air. These fats are about 2½ times more valuable as warmth-givers than the same weight of starch or sugar. The body requires about twice as much warmth-giving food as it does of flesh-forming.

2. If we compare the animal flesh-formers with the vegetable flesh-formers, we shall see that we could do without much of the butcher's meat which is generally thought necessary to life, and in this way we would live much more cheaply. Indeed, children, who have no hard daily work, will thrive well on vegetable flesh-formers alone. They are all cheap, good, and easily digested. The following figures will shew the saving in mere money: 1½ lb. of **Oatmeal**, costing about 3d., gives as much flesh and almost as much fat to the body as 1 lb. of uncooked meat at 10d. **Indian Corn** (maize) is even cheaper. It costs about 1d. per lb., and 1½ lb. of it contains as much flesh-forming substance and more heat-giving substance than 1 lb. of uncooked beef at 10d. **Barley** and **Wheat** sell for about the same price as maize; and peas, beans, and lentils cost less, not per lb., but in proportion to the nourishment they contain—that is to say, 1 lb. of peas, beans, or lentils is equal to about 3 lbs. of flour, maize, &c. These do not produce heat in the body, but this can be added for little additional expense—a little bacon or dripping or oil. **Rice** is also cheap, but is not so good a food as oats or wheat, as it consists almost entirely of starch. When cooked with milk and egg, or fat of any kind, it is very nourishing. **Sago**, **Arrowroot**, and **Tapioca** contain little but starch and water, and are therefore less nourishing than rice, wheat, or oatmeal. They require the addition of milk and eggs to make them useful as food.

3. **Bread** is rich in heat-giving starchy material, but wanting in flesh-forming material; pure white bread is specially so, and because of this it is not so nourishing as that made from *whole produce* or seconds-flour. The bran is entirely removed in making the finest white flour. It contains much fatty matter, and also some of the salts which are needed to make bone. Brown bread is more tasty than white, and more pleasant to eat, even without butter or treacle. It is thus more economical than white bread, even when costing the same per loaf. **Macaroni** is also made from wheat, and is a very useful article of food. The poor in Italy live on it almost entirely. By adding

butter, oil, or sugar, which are the necessary heat-giving substances, they have a food equal to butcher's meat, and much cheaper. It costs 6d. per lb., but 2 or 3 oz. make a large dish when rightly cooked.

4. **Fresh Vegetables** cannot support life alone, but the juices and salts they contain are very valuable. Potatoes, carrots, parsnips, and turnips have also sugar, fat, and starch in a small degree.

5. **Fruits** are not nourishing, but, like fresh vegetables, they are useful on account of the mineral substances found in their juices.

6. **Meat.**—The lean meat of all animals sold by the butcher is nearly equally nourishing. But the value of these meats as food depends much on the amount of fat and lean in the different kinds. The loss in cooking mutton and pork is greater than in cooking beef, just because they have more fat. This fat is melted by heat, and of course makes the piece of meat smaller. But if the fat thus melted be eaten either with vegetables or bread, the loss will not be real, but only apparent. This is seldom taken into account, and that is why beef is generally thought to be more worth its price than either mutton or pork.

Fresh Meat is more nourishing than *salted meat.* Salting makes meat less good as food, because it draws out its juices, which contain much flesh and bone-making material. These juices are wholly wasted, for the brine which comes from the salted meat is the part that contains the juices, and it is always thrown away. Veal and lamb and other young meats contain much water, are generally less fat, and have little or no mineral matter. Thus they are by no means nourishing, unless these wants be supplied in the other foods eaten with them.

7. **Fish** is a good food, but it is not equal to flesh in nourishing the body. It must not be allowed to take the place of meat *entirely* more than once or twice a week. Even then, most kinds of white fish ought to have the addition of some sort of fat. Herrings and sprats contain a little fat throughout their flesh. They are consequently more satisfying as food than cod, for

example, in which the fat is not so much in the flesh as in the liver, which is not generally eaten. Fish is often very cheap in Scotland; but in proportion to the nourishment it contains, it is rarely so cheap as the lower-priced joints of beef and mutton.

8. **Poultry and Game.**—These are not so nourishing as butcher's meat, and are generally very dear. They contain flesh-forming material, but are wanting in heat-giving and bone-making substances. These can be added in the gravy or sauces, or by eating bacon or sausages along with them.

9. **Eggs.**—The value of an egg as an article of food may be easily understood, when we remember that from it, by the help alone of air and heat, the fowl, with its flesh, bones, membranes, and feathers, is produced! The white of the egg contains principally flesh-forming material; the yolk, heat-giving material, but not in sufficient quantities to support human life for long alone. Eaten with bread and butter, one egg will go as far as five eggs eaten by themselves.

10. **Cheese.**—By itself, cheese is not a good food. It contains too much flesh-forming and not enough of heat-giving material. It is not easily digested, and should not be eaten in large quantities at a time. A little cheese with bread or macaroni (these supplying the necessary heat-givers) is, however, highly nutritious. The best kind is new-milk cheese, in which there is a certain amount of butter. Skim-milk cheese has little or no fat in it, and consists almost entirely of *solid* flesh-forming material. This is bad for the health, unless carefully mixed with a variety of other foods.

QUESTIONS.

1. From what sources do we get our food? Name some of the flesh-formers got from the animal kingdom. Name the heat-producers got from the vegetable kingdom. For what class of people are the vegetable foods best suited? In what proportion do we require the different kinds of food?
2. Name some articles which will support life as well as butcher's meat. Tell why this is so.
3. What is the advantage of using bread made of whole produce?

4, 5. From what kinds of food do we get mineral substances?
6. Whether is fresh or salt meat more nourishing? Why?
7. What value would you put on fish as an article of food?
8. In what are poultry and game wanting?
9. What substances are found in the yolk and white of an egg?
10. Why is cheese by itself not a good food? Which is the best kind of cheese?

III.—COMPARATIVE VALUE OF LIQUID FOODS.

1. **Milk.**—Of all liquid foods *milk* is the best. Indeed, it is in itself a perfect natural food, containing heat-giving, flesh-forming, and bone-making materials, and each in its right proportion. Infants live upon it alone (or should do so) for the first year of their life, and throughout childhood it is a most valuable addition to other foods. New milk contains water, sugar, cheese, butter, and salts—all the kinds of food required for the body. When skimmed, it loses nearly all its butter, but is still a nourishing drink. It is quite as good as new milk for those who can supply the necessary heat-giving materials by other kinds of food.

2. **Water.**—Water is one of the necessaries of life. It is found in every kind of food, whether solid or liquid. In every pound of bread there are six ounces of water, and in fresh uncooked meat nearly double that quantity. It is of the greatest importance that the water we drink be pure. Serious epidemics have been caused and many lives lost in districts where the water supply was impure. Water should be bright and clear, and free from taste or smell. Hard water is the most pleasant for drinking, and soft water the best for cooking purposes. Water takes certain salts and mineral substances from the soil through which it passes, which are useful in our bodies in many ways. It is well to drink water with solid foods, unless soup or other liquid food forms part of the meal. Water, if taken at meal-times, should be taken towards the end rather than at the beginning of the meal. If drinking-water be supplied through taps from a cistern, it is very

important to have the cistern cleaned out two or three times a year. In drawing the water, let it run to waste for a minute or two before taking any for use. In this way, whatever may have collected in the pipes will be got rid of, and there will be less danger of lead-poisoning. Drinking-water should be cool. *Very cold* water sometimes hinders or stops digestion, or causes cramp.

3. **Tea** contains little or no nourishment. It has the power of stimulating or making our nerves more active. After taking it, our minds are clearer and brighter, and we are more ready for work. But it is *not* a *food*, and for young people and invalids it should never take the place of milk as a drink. It ought not to be taken without solid food, and is better *after* a good meal than *instead of* one.

4. **Coffee** is even more stimulating than tea, and, like tea, should be used *with* solid food, and not in place of it. If two-thirds or so of boiled milk be added, it is less hurtful to young or delicate people; but the milk *by itself* is decidedly preferable.

5. **Cocoa** and **Chocolate** are both meat and drink. They are much better for the health than either tea or coffee, because not so stimulating. They contain much heat-giving and some flesh-forming material. Prepared with milk, they become really valuable foods.

6. **Beer, Wine,** and **Spirits** are intoxicating drinks. They contain so little that is nourishing, that they cannot properly be called *foods*. They may be used as medicines for the sick or feeble, but only when ordered by the doctor. Children who are well should never taste them. They are usually taken for pleasure or from habit, and might easily be got rid of without any disadvantage. They are very dear, and do not give strength for work in any proportion to their cost. The first effects may be refreshing and apparently strengthening, but they end by making people dull and stupid, and unable for work. More support and real strength is to be got from one pint of milk than from one gallon of beer.

QUESTIONS.

1. Describe the properties of milk. What is contained in new milk?
2. What harm may be done by drinking impure water? Of what use is water in the building up of the body?
3. How does tea rank as an article of food? What good does it do us? When should it be taken?
4. How would you prepare coffee for young people and invalids?
5. How are cocoa and chocolate better than tea and coffee?
6. Name the intoxicating beverages. How do they affect the body? Compare milk and beer as strength-givers.

END OF PART I.

PART II.

DOMESTIC ECONOMY.

PART II.

THE DWELLING.

I.—CHOICE OF A HOUSE.

1. In choosing a house, great attention must be paid to five things—**Dryness, Light, Good Air, Good Water, Good Drainage.** It is often impossible to unite all these in one house; but we ought at least to bear in mind that each one of them is helpful in maintaining good health, and that it is important to do all in one's power towards gaining this, the greatest of earthly blessings.

2. **Dryness.**—A damp house is always unhealthy. The damp may come from the ground, or it may come from a leaking roof or choked-up rain-pipe, or it may be caused by the rain beating through thin walls. Houses in low situations are nearly always damp, even when the drainage, pipes, and walls are in good condition. A house should be chosen on high ground, where the wind can blow all round it, and, by constantly changing the surrounding air, carry off much of the damp which might otherwise linger about it.

3. **Light.**—This is necessary to health both of mind and body. If we live in light cheerful houses, we generally feel more bright and happy ourselves, and this helps greatly to make us strong, active, and healthy. The Italians have a proverb: 'Where the sun does not go, the doctor does.'

This is quite true; but even the doctor cannot do for us what the sunlight ought to do. Besides, it is really a saving to live in a sunny house; it is much warmer, and we need smaller fires, and consequently less coal, than when our house is overshadowed either by other houses or by trees, or placed in any position where the sun cannot reach it. If possible, we should live in a wide street, where the houses are not too high, and where we can have direct sunshine for some part of the day at least.

4. **Good Air.**—A wide street also insures plenty of fresh air, if it be kept clean and free from accumulations of refuse of any kind. Air which passes over heaps of decaying rubbish becomes impregnated with unwholesome matter, and is not good for people to breathe. It is well to have a clear open space behind as well as in front of the house, so that there may be a draught right through.

5. **Good Water** is quite as important for health as good air. It must be pure; and in order to make sure of this, it is wise to filter water which is to be used for drinking or cooking purposes. Water may be poisoned or made hurtful to health in many ways. If water be taken from a well, one must be careful that no drains are near it, for drains are apt to get out of order, and some of the sewage matter might then only too easily find its way into the well. Slops and dirt should never be thrown out near a well. They soak through the ground, get into the well, and make the water unfit for use. River water, if the river passes through towns, villages, or manured fields, cannot fail to be impure. It ought to be filtered before it is used for drinking or cooking purposes. If water be drawn from a cistern, care must be taken to have it cleaned out regularly. The cistern ought to be covered, and placed so as not to be exposed to bad air from closets or waste-pipes. In taking water from the tap, it should be allowed to run for about a minute. This empties the pipes of the water which has been lying in them, and lessens the risk of lead-poisoning. If water has to be fetched from a distance, it ought not to be stored in wooden buckets. The wood gets soft, and makes the water impure. It is better to use glazed earthenware or stoneware jars, with lids, which prevent dust and other

impurities from getting into the water. A neglected water-tank which has gathered impurity has often been the cause of sickness and death.

6. **Drainage.**—Is the drainage of the house good? is one of the most important questions to ask, and one of the most difficult to answer. Drains are generally hidden away under ground, or between the walls, so that we seldom know where to look for them; and without seeing them, we cannot tell if they are in good order. Pipes crack and get loose at the joints, or perhaps have not been well joined at the first. The bad matter escapes into the earth, or into our water, or into the air we breathe. We often suffer much in consequence, without knowing the cause of our suffering. If there is the slightest smell from the sink or water-closet, something must be wrong. The sooner it is put right the better; for nothing so surely causes fever and diphtheria as foul air from drainage-pipes.

7. **Closets.**—It is of the greatest importance that care be taken to keep the closet pure and wholesome. If there be a water-closet in the house, it requires constant attention. The pan ought to be kept clean by scouring with common kitchen salt. (The water dissolves the salt, and there is not the same danger of choking the pipe as when sand is used for the purpose.) It is a waste of water to have a small stream continually running down the closet-pipe. Each time that the closet is used, the pipe ought to be cleared out by a forcible rush of water. Nothing ought to be thrown down the closet which might choke the pipe. Many people are careless about this, and put all sorts of rubbish into the closet—rags, hair, burned matches. These things are almost certain to cause a stoppage, and much expense is incurred to repair the damage done. The closet ought to be kept exclusively to its proper use. If an earth or ash closet be used, it is necessary that the earth and ashes should be as dry as possible. Care should also be taken that no slops are thrown into these closets. Very little earth or ashes are then needed to keep the closets wholesome. The buckets or pans should be frequently cleaned out, and the closets limewashed at least twice a year.

8. **Dustbins** are often unhealthy, because bits of food and vegetable refuse are constantly left to rot among the ashes. Dustbins should be used solely for ashes, and, if these are kept dry, they do no harm. House-refuse, such as dust, potato parings, cabbage-leaves, remains of fish, &c. should be burned. If thrown at once on the kitchen fire, they do not burn, because of the water most of them contain. Put them *under* the fire in the ashpan for an hour or two. This dries them, and they become fuel which gives out heat in burning. Thus it is an economy to use animal and vegetable refuse in this way, instead of throwing it away.

QUESTIONS.

1. Name the five points to which you would attend in choosing a house. Why do we put so much stress on these?
2. How may a house become damp? What is the advantage of building a house on a high situation? How are we affected by a well-built house?
3. Why is it a saving to live in a sunny house?
4. How would you endeavour to get good air?
5. What is the use of a filter? How may water be rendered injurious to health? What precaution should we take as regards the cistern?
6. Why is it difficult to examine the drains of a house? How do we know when they are wrong? What diseases arise from bad drains?
7. What directions would you give about the closet? How are closet-pipes often choked? How would you keep an earth-closet in good order?
8. Why are dustbins sometimes unhealthy? How can fuel be made of animal and vegetable refuse?

II.—WARMING.

1. **Fuel.**—Like our bodies, our houses must be kept comfortably warm. We must have the means of warming them in winter and of cooling them in summer. For warming purposes we use fuel—**Coal**, **Wood**, or **Peat**. Coke and charcoal are little used in this country. These are equally good as fuel; but they vary in price, and are consequently more or less economical, according to circumstances. Owing

to the easy means of transport either by railway or canal, there are few parts of the kingdom which are not well supplied with coal; this is the most usual kind of fuel, as it is the best, and almost everywhere the cheapest. In some remoter parts of the country, however, peat is more easily obtained than coal. Wood is occasionally used.

2. **Grates.**—A great deal of coal is wasted in this country, because people do not yet understand how to use it to the best advantage. Our grates for the most part give out very little heat in proportion to the amount of coal burned. In a common grate, most (nine-tenths) of the heat produced by the burning fuel goes up the chimney. This heat is useful *indirectly* in its passage through the chimney, for it warms the walls of the house in which the chimney is built. Grates are generally made of solid metal, which conducts away part of the heat that might otherwise be thrown out into the room. This may be prevented to a certain extent by having the grate lined with fire-bricks or fire-clay. This brick or fire-clay does not cool the burning fuel as metal does. The fire-clay absorbs the heat and throws it back into the room. Thus less fuel is required, and yet more heat is obtained, in proportion to the amount used. If the bottom bars of the grate be covered with a piece of tin or iron plate, the air will have to enter by the front bars. The fire will be brightest there, and no part of the heat will be lost by being thrown down into the ash-pan.

With an ordinary grate at one side of the room, the heat is unequally distributed, and we are often overheated near the fire, and quite chilly in a far-away corner. Against this we can guard by having something additional to put on if sitting far from the fire. When moving about and working, the exercise increases the heat in ourselves, and no extra covering is then necessary.

3. **Making up a Fire.**—Directions for **lighting** a fire are given along with the direction for cleaning the grate (page 43). If a fire be lighted in a room in the morning, it should be allowed to burn brightly for a short time, in order that the room may be thoroughly warmed. A large piece of coal should then be put on, and a shovelful of cinders or dross, or

a mixture of the two, should be thrown on at the back. This is called a '*backing*.' It should be wetted and well pressed down. This kind of fire will last for hours, without requiring to be touched. Less coal is used than by constantly adding small quantities. The hearth is kept tidy and comparatively free of cinders and ashes.

4. Of course, for **cooking** purposes, such a fire is not suitable. While cooking is going on, one should try to have as little smoke as possible, in order to keep the kettles and pans clean, and to hinder smuts from falling into the food which is being prepared. A fire almost without smoke can be had by adding small pieces of coal from time to time. A small *clear* fire in a kitchen is the best and most economical for cooking on. It thoroughly heats the iron round the boiler and oven, on the top of either of which slow stewing can be done very easily. (If there is a boiler in the kitchen grate, care must be taken to keep it constantly supplied with water. If neglected, it is almost sure to crack. Attention must be paid to keep the oven flues free from soot. They ought to be cleaned once a week.)

5. **Cooking-stoves** are more economical than open kitchen-ranges, because they burn less fuel. The fire is completely under control, and can be raised or lowered in a very short time by opening or closing the doors, so as to send a strong draught through the burning fuel, or over it, as required. In stoves, the commoner kinds of coal can be burned with great advantage.

6. The small **gas-stoves** which can be placed on a table, are useful for boiling a kettle of water in summer, or when there are no fires on in the house. They cost but little, and there is no waste of fuel or time. They can be instantly lighted when required, and instantly put out when no longer needed.

QUESTIONS.

1. What are the chief kinds of fuel?
2. What is the disadvantage of a solid metal grate? How would you remedy this? Why should we put tin or iron plate in the bottom of the grate?
3. How would you make up a room fire?

4. What difference would you make in a kitchen fire? Why? What reason would you give for looking after the boiler?
5. What can you tell about the advantages of cooking-stoves?
6. When would you use a gas-stove?

III.—LIGHTING.

1. **Candles**, which were formerly the chief means of giving artificial light, have now almost entirely given place to oil lamps or gas. Candles give a poor light, and are the dearest mode of producing light. The common tallow-candle burns away quickly, and is disagreeable on account of the smell from the heated tallow and burning wick. The more expensive kinds, wax and paraffin candles, do not burn so quickly, and have a less offensive smell. Still, they are by no means so satisfactory or so economical as lamps or gas.

2. There are many kinds of oil lamps, but the commonest now are **Paraffin Lamps.** They give a steady, soft light, and are almost universally used where gas is not to be had. Paraffin and petroleum are very cheap, but paraffin is much safer than petroleum. The tin flasks in which each is kept should be firmly corked, as the oils evaporate when exposed to the air. Care must be taken in the management of lamps. The oil-holder should be made of glass. If made of metal it is apt to get overheated, and there is a risk of it bursting. The lamps should always be filled with oil and the wicks trimmed before it is dark. If any oil is spilt on the lamp, it should be carefully wiped off, or there will be a disagreeable smell when the lamp is lighted.

3. **To Light the Lamp.**—Take off the chimney; turn up the wick, so that it may reach the slit in the cone. Turn it down again immediately after lighting it. Put on the chimney, and allow a minute or two for the glass to get partially heated. Then turn up the wick till there is a large bright flame without smoke. It is well to remember that it is no saving of oil to keep the flame low. The same quantity of oil is used as when the flame is bright, only some of it passes away in vapour, instead of being burned and giving out light. It is this vapour that causes a disagreeable smell.

4. **Gas** is undoubtedly the cheapest source of artificial light in large towns, where, from the quantity made, it can be had at a moderate charge. Its flame is brighter than that of either candles or lamps. One good burner gives as much light as fifteen candles. There is some danger of suffocation and explosions in houses where gas is used. A leaking pipe, or a burner carelessly left open, will allow the gas to escape. If the quantity be considerable, it will suffocate any one who is asleep in the room and unconscious of the smell. If any person takes a lighted candle or taper to find out where the leakage is, an explosion takes place instantaneously. The explosion is dangerous in proportion to the amount of gas which has escaped. Whenever there is a smell of gas in the house, the cock at the meter should be turned, and the windows thrown open. Above all, *no attempt should be made to search for the leak with a light.* A gas-fitter ought to be called in without delay.

5. **Air Needed.**—It must be remembered that nothing will burn without air. Candles, lamps, and gas use up much of the air in a room. It is therefore of great importance to have a constant supply of fresh air where these lights are burning. This can easily be managed by one or other of the means for ventilation mentioned below (pages 51–53).

6. **Shades.**—Artificial lights hurt the eyesight more or less, but most of all, when they are placed on a level with the eyes. A shade of some kind should always be used. This not only protects the eyes from the bright glare, but makes the light fall directly on the book or work.

QUESTIONS.

1. Name the ways by which we obtain artificial light.
2. What lamps are most commonly used?
3. How do you trim a lamp? Why is a large flame as economical as a small one?
4. Which is the cheapest artificial light? How can gas escape? How can an escape lead to an explosion?
5. How is it that we need more fresh air when lights are burning than during the day?
6. How can we save our eyes from the bright glare of gas or lamps?

IV.—CLEANING.

1. **Cleanliness.**—The first duty of every one who has a house is to keep it *clean*. This will help to make it a healthy, happy home. The great thing is not only to *look* clean, but to *be* clean; not to *hide* dirt, but to *hate* it. We say that 'Cleanliness is next to godliness.' Let us take this old proverb to heart, and learn to make every person, place, and thing as pure and clean as we can both by example and precept.

Houses *do* get dirty from day to day, however careful we may be. There is no disgrace in that. The disgrace is to keep one day's dirt and let it be added to another day's dirt, and so on to the end of the week, contenting ourselves, like too many bad managers, with a 'grand cleaning' on Saturday. The best rule about dirt is to get rid of it as quickly as possible. The dirt and dust of each day should be removed and destroyed. If work be done regularly and with method, there will really be less trouble than in the Saturday 'turn-out,' and there is, besides, more comfort and satisfaction.

There are many kinds of work needed to clean a house and all that it contains. A few general directions are given here, but they must be *practised* before they can be said to be really learned or understood.

2. **To Clean a Kitchen Grate and Light a Fire.**—First, take out the larger cinders and half-burned coal left in the grate from yesterday's fire. Lay these on one side for lighting the fire. Rake out the ashes. Sweep down all soot from the mouth of the chimney, reaching as high as you can with an old brush kept only for this purpose. Do this carefully, not to let the soot fly about. Brighten the grate with black-lead. Moisten the black-lead slightly; put on as little as possible with a soft brush, and polish up with a harder brush. (If the black-lead is made too wet, or if too much is put on the grate, it will take a long time to polish it, wear out the brush very quickly, and also waste much strength and energy.) Then lay the fire, and bear in mind that a fire will not burn without air any more than we can live without air. Put a

few cinders on the bottom bars, leaving spaces for the air to get through. Crumple some paper gently, and lay it on the top of the cinders. Above this put a few pieces of wood, crossing one another. The wood should be cut into small pieces, as the proverb says: 'Little sticks kindle a fire; great ones put it out.' Then place lightly on the top of the sticks some small bits of coal and some of the larger cinders which were kept for the purpose. See that spaces are left for the air to pass through freely. Put a light to the fire. Now take away the shovelful of cinders. Sift them, and leave only the ashes in the dustbin. Lay aside the cinders, and use them as a 'backing' for your fire when it has burned up well. Clean the fire-irons. If they are rusted, use emery-paper, or rub with a damp rag dipped in ashes. Polish with a dry duster. Wash up the hearthstone with whiting or pipe-clay.

You may clean all grates in the same way as a kitchen grate. In rooms where there are carpets, put down a cover of some kind in front of the grate. On this lay the shovel, black-lead and brushes, and fire-irons. This keeps the carpet from stains and dust. When the work is done, gather up the cover carefully; shake it outside the house, and fold it away tidily.

3. **To Sweep a Floor.**—If the floor be of wood, or stone, or tiles, use a soft hair-broom. Begin at one end of the room, and gradually sweep the dust together to one part. Be careful to go into all the corners and over the whole surface of the floor. Take the dust up into a dust-pan with a short brush, and burn it. Sweep very gently, or you will do little more than move the dust from one place to another. It will fly into the air and settle on the walls and shelves, and you will have double trouble in dusting. To prevent the dust from flying about, scatter tea-leaves (well washed and drained), or salt, or cabbage-leaves shred down, over the floor before beginning to sweep. These are damp, and the dust sticks to them. It is then more easily collected. This is particularly useful in sweeping floors covered with carpet or matting.

4. **To Dust a Room.**—Use a soft dry duster. Begin at one part of the room, and go over everything in order till you come round to the point where you began. Wipe firmly over

every part of the furniture and the ledges of doors, windows, shutters, and skirting. Remember that the object of dusting is to take the dust entirely away, and not merely to move it from one part of the room to another. Therefore never flap your duster over anything. Shake the duster repeatedly in the open air while dusting even a small room.

5. **To Scour a Floor.**—First, remove all the loose dust and dirt by sweeping. Get the things needed for the work—a pail of warm water, a scrubbing-brush, some clean sand, and a piece of coarse flannel or house-cloth. Even when the boards are very dirty, do not use soap, as it makes them yellow; nor soda, as it makes them black. Begin in the corner farthest from the door. Have as much light on your work as possible. Kneel down, and, with the flannel, wet as much of the floor as you can reach. Scrub it hard with the brush and a little sand (scrub with the grain of the wood if you can). Having scrubbed the boards clean, wash well with the flannel and water, to remove the sand. Then rinse the flannel thoroughly. Wring it as dry as you can, and go over the boards for the last time. Proceed to scrub the next piece of the floor in the same way, always keeping the part which is done in front of you. Change the water often. Nothing so stains and discolours wood as dirty water. Choose a bright airy day for scouring wooden floors. Do this kind of work as early in the forenoon as possible, so as to have the floor dry before night. Remember that damp floors make the air damp and cold. This is unhealthy.

6. **To Clean a Room.**—Open the window top and bottom. Dust and put aside any ornaments, and shake and fold up the table-cover. Cover up any large piece of furniture to protect it from the dust. If a bed be in the room, turn up the valances and curtains, and cover the bed with an old sheet. Rell up the carpet and take it away to be shaken. Sweep out the floor and remove the dust. Clean the grate and fire-irons. Scrub the floor thoroughly. While the floor is drying and the dust is settling, shake and beat the carpet. When the floor is quite dry, put down the carpet. Then clean the window. Use water alone and a piece of wash-leather. Squeeze the leather as dry as you can, and go over

the surface of each pane of glass carefully. This removes all dirt from the glass. Rinse the leather well after washing each pane. If the window is very dirty, go over it a second time with clean water. *The glass need not be dried.* Then dust the wood-work in the room, and each article of furniture as you put it back to its proper place. Take away the covers, rolling them up gently to prevent any dust from flying about. Dust the things which have been covered. Re-arrange the bed. Shake and fold up the dust-covers, so as to be ready for the next time they may be wanted.

QUESTIONS.

1. Give the proverb which shews the value of cleanliness. Why should we do our cleaning daily?
2. How would you light a fire? Why are we so particular to give it air? How do you clean the grate? Why not put on much black-lead? What is the 'backing' of a fire? How would you protect the carpet when cleaning a room grate?
3. Tell how you would sweep a room. How would you keep down the dust? Why sweep gently?
4. How would you begin to dust a room? Why should your duster be both soft and dry?
5. Name all the articles needed for scouring a floor. What harm would be done by using soap or soda? What can we use instead? Why should you change the water often? When would you begin your scrubbing, and why?
6. Describe carefully the thorough cleaning of a room. How would you clean the windows?

V.—CLEANING OF COOKING UTENSILS.

1. A cooking utensil means anything into which we put food, as a pan or basin; anything which helps us to prepare food, as a minching-board or rolling-pin. *Never use soap to clean any kind of cooking utensil.* It is almost impossible to wash it off so completely as not to leave a little in some corner. This might come off into our food the next time the utensil was used, and would not be a pleasant flavour to any kind of food. Use a little soda instead of soap. Soda, like soap, sucks up any grease that it touches. Now, in all foods there is some grease, even though we do not see it, and a

little of that grease sticks to any dishes or pans in which food has been. This must be removed by *washing.*

2. **Wooden Utensils.**—Put about a table-spoonful of soda into a pail of water, either hot or cold. Wet the article—table-top, paste-board, or rolling-pin. Scrub well with a hard brush and fine sand. Wash off the sand. Rinse in clean water. Wipe with a cloth, and put in the open air till thoroughly dry.

3. **Dishes.**—Put a little soda into a bowl of hot water. Wash each dish separately and rinse in a second water. Set the dishes to drip, and dry them with clean towels, beginning with those dishes that have been washed first. Glass is washed in cold water. Dry, immediately after rinsing, with a linen cloth, and rub till very bright. Be careful to wash any dish that has held milk, with *boiling* water, especially if the milk has been sour. This is called '*scalding.*' Unless it is done, the milk which is next put into the dish will be apt to turn sour very quickly.

4. **Pots and Pans.**—If a pan is *new*, fill it with cold water. Add two or three ounces of bran. Put it on the fire and let it come slowly to the boiling-point. Then draw it aside and let it simmer for two hours. It is then ready for use. After a pan has been used for cooking, it must be carefully cleaned both inside and outside. Pour boiling water into it. Add a small piece of soda; let it stand till cool, and scour with sand. Scrape any soot off the outside of the pan. Rinse well in plenty of water. Do not wipe it. Turn it upside down on wooden rails made for the purpose, where plenty of air can get into it; or put it near the fire till dry. Wash the lid also with hot water and soda. If smoked, scour with a little sand or ashes.

5. **The Sink.**—This is not really a cooking utensil. But things used for food are often washed in it, and it must be kept very clean. Collect any refuse that may have gathered at the mouth of the waste-pipe, and burn it. Scrub the sink carefully with a brush, hot water, and soda. Do not use any sand. If sand were allowed to go down the trap, it would choke the pipe. If the sink is very greasy, scour it with some common kitchen salt. This is rough, like sand, and

does the work just as well. The water dissolves the salt, and there is thus no danger of the pipes being stopped up by it.

6. **Knives and Forks.**—Be careful not to leave knives or forks lying in hot water. This loosens the handles. Wash the blades and prongs in hot water and soda. Wipe them dry. If the handles are dirty, dip them into clean warm water and dry them at once. If there are stains on the knife-blades, rub them with a piece of raw potato. Then clean them on a knife-board with bath-brick or emery-powder. Take care to hold the knife steady. Rub the blade on the board smartly, backwards and forwards, till it is bright. If the knife is not held firmly in the hand, the edge of the blade is apt to be spoiled, and the leather on the board cut. Clean the prongs of the forks with a damp rag and a little bath-brick or emery-powder. Dust both knives and forks thoroughly before putting them aside.

7. **Brasses.**—Clean the brasses with powdered rotten-stone mixed with sweet oil. Rub on a little of the paste with a piece of flannel, and polish up with a dry duster. Or use any of the polishing pastes sold for cleaning brass, and apply them in the way directed above for the rotten-stones and oil.

8. **Tins.**—Wash any utensils made of tin in hot water and soda. Polish them up with dry whiting. Be careful to wipe all dish-covers quite dry inside and outside, after they have been used. The moisture, caused by the steam from hot food, is hurtful to the metal.

QUESTIONS.

1. What is a cooking utensil? Name all those you know. Why use soda instead of soap in cleansing them? Why will not water by itself do?
2. How would you wash wooden utensils?
3. How do you wash glass? What is the meaning of 'scalding' dishes? Why do we scald milk-dishes?
4. How do you 'season' a new pan? How do you clean a pot?
5. Why would you not clean the sink with sand? What do you use instead?
6. Tell particularly how to clean a knife and fork. If you don't hold the knife firmly when cleaning, what harm will you do?
7. What do we use for cleaning brass?
8. How do you clean tins?

VI.—OCCASIONAL CLEANING.

1. Most of these different kinds of work must be done *daily* in a house. There are also other kinds of work which are connected with keeping the house clean and healthy. Though only needed occasionally during the year, it is important for us to know about them, and to act up to our knowledge as far as we can. The walls and ceilings of rooms are often allowed to get very dirty, even by a manager who is most particular to keep the floors and furniture scrupulously clean. Much dust clings to the walls and ceilings. This dust makes the air impure and our houses unhealthy.

2. **Papered Walls.**—If the walls are covered with paper, they should be frequently brushed down with a soft hair-broom. They ought then to be wiped over with a cloth. Any dirty marks can generally be removed by rubbing with dough or stale bread. When new paper is to be put on, the old paper must be wholly scraped off. Paper is a porous substance, and has the power of taking into itself any moisture or smell from the air. After a time, this begins to decay. It gives rise to that unwholesome closeness which is often felt in small rooms in which the walls are papered. Of course, this sickening closeness is much increased when several papers are put on one above another.

3. **Painted Walls** do not take up unhealthy moisture so much as papered walls; neither do those that are whitewashed. If painted, the walls can be thoroughly cleaned by washing with plenty of clean water. To remove any dirty marks, a little boiled soap may be used. This must be washed off at once. The soda contained in the soap destroys paint.

4. If the walls are **whitewashed**, they may be gently brushed down now and again to remove the dust. They ought to be freshly whitewashed twice a year. *Whitewash* is made by pouring water on whiting. The liquid should be about the thickness of cream. A little warm size or dissolved glue must be added before using. This prevents the colour rubbing off when it is dry. The old whitewash

ought to be well washed off with a brush and clean water before the new whitewash is put on. A broad flat brush is required to put on the whitewash. The brush must be moved regularly up and down the wall. Or, if a ceiling be done, the brush must be worked backwards and forwards evenly, till the whole surface has been gone over. Whitewash may be coloured *buff* by adding a little yellow ochre, or *drab* by adding a little green vitriol.

5. **Limewash** may be used instead of whitewash. It is particularly recommended for houses in crowded neighbourhoods where there is danger of infectious diseases; because lime is a good disinfectant. Limewash is made by placing some freshly burned quicklime (or a *lime-shell*, as it is commonly called) in a pail, and pouring over it sufficient water to cover it. This is called *slaking* the lime. It should stand for an hour or two, and should then be thinned with water. One pint of boiled linseed-oil ought to be added for each gallon of the wash. Any refuse-fat, such as dripping, may be used instead of the oil. This acts in the same way as the size or glue in whitewash. It prevents the lime from rubbing off when dry. Limewash is applied in the same way as whitewash. The brush should not be left lying in the lime, or the bristles will be destroyed.

If quicklime be slaked with skim-milk, and afterwards thinned with water, it makes a good wash for walls and passages which are exposed to the weather. Rain does not destroy it.

6. **Oil-Paint** preserves wood from the effects of damp. It fills up the pores, hardens the surface of the wood, and keeps it from rotting. Woodwork which is much exposed to water—round a sink, for instance—should be kept well painted. When the paint wears off, the water very soon softens the wood. Little bits are apt to get broken off, and before long new woodwork is needed. This can be prevented to a great extent. Any colour of paint can now be bought mixed with oil and ready for use. It costs very little, and it is not difficult to apply it. The surface to be painted must be made as smooth as possible. Any holes can be easily filled up with putty. Then the paint should be put on with

a firm brush made for the purpose. The brush must be moved in the direction of the grain of the wood. When the surface has been gone over entirely, it must be left to dry. When the paint is dry, it will probably be found that the wood has sucked up much of it. A second coat of paint should then be added. The smell of fresh paint is not only disagreeable, but hurtful to health. It may be quickly got rid of by putting several open basins full of water in different parts of the room. The water should be frequently changed.

QUESTIONS.

1. What is meant by an occasional cleaning? How does dirt on walls and ceilings affect the health?
2. How do you clean papered walls? Why must you take old paper off the walls before putting on new?
3. How do you clean painted walls?
4. What is whitewash, and how is it made?
5. What is often used instead? When would you prefer limewash to whitewash? Why? How do you hinder limewash being rubbed off?
6. Why do we paint wood? Give directions for putting on paint.

VII.—VENTILATION.

1. Every room must have the means for air to go out and come in—this is done by means of **ventilation**, which is the art of *getting rid of bad air and supplying fresh air without causing draughts.* The bad air which we breathe out is warm; and as warm air is lighter than cold air, it rises like steam or smoke. This bad air should be allowed to get out at once, by the window being open from the top, by having slits cut in the glass of upper panes, or holes bored in the framework of the upper sash of the window, or by some other means of ventilation near the ceiling.

2. **Fresh Air** is constantly entering the house through every crack and keyhole. The chimney, too, is a useful ventilator both when the fire is burning in the grate and when the grate is empty. In winter, the heat from the fire warms the air round it. This heated air passes up the chimney;

and other air pressing on to take its place, gets heated in its turn, and so a constant change takes place. In summer, the chimney is a means of ventilation ; on account of this, the chimney ought never to be stopped up nor the damper closed.

3. But these means of ventilation are not enough, above all, where there are many people in one room. In order to let plenty of fresh air *in*, we must open our windows freely from the bottom in all kinds of weather ; or we may adopt some plan like the following, which is simple and costs very little: 'Lift up the window at the bottom two or three inches, and place a piece of wood the whole length, so as to support the window, and close the opening ; the air then enters at the middle of the window between the sashes (as the sash of the lower window is raised above that of the upper) and passes upwards towards the ceiling. It mixes so gradually with the air of the room that no draught is felt.'

4. Of course, a constant change of air is as necessary by night as by day, for we go on breathing just the same when we are asleep as while we are awake. People who are careful to attend to ventilation through the day, often forget this, and stop all proper ventilation at night. They cannot then expect to rise refreshed in the morning, if they have been breathing bad air for several hours. It is more difficult to ventilate a bedroom well than an ordinary living-room. But a well-aired bedroom is as important to health as a well-aired sitting-room. The bed must be kept out of any direct draught, and yet placed so that the fresh air from the window can reach it and purify it. The following advice is given by an eminent doctor : 'Never let a bedroom get too warm and close, and then open doors or windows wide to cool it, for by so doing you will be sure to give colds. Keep the temperature equal night and day, summer and winter, as far as possible.' There are few nights in the year when one cannot have the window open an inch from the top. If one shuts the window while washing and dressing, there is little risk of catching cold—less, indeed, than if one goes from an overheated and badly-aired bedroom direct into the open air as so many have to do.

5. A room ought never to be aired only from a staircase or passage, but always from the outside air. As already said, no heaps of rubbish or stagnant pools of water should lie near the house, as these would make the outside air impure before it entered the room. And it must be remembered that the air of a room can never be pure if the room is dirty. Floors, walls, and furniture must be constantly cleaned, and kept as free from dust as possible. The greatest impurity is often given off by the bed-clothes. These take up the moisture from the body, and unless thoroughly aired every morning, and frequently washed, soon become offensive and unhealthy.

QUESTIONS.

1. What is meant by ventilation? In what direction does bad air move? Why?
2. Tell all the ways you know for ventilating a room. How does a fire help in the ventilation of a room?
3. Describe a specially safe and simple plan for ventilating a room.
4. How is one affected by sleeping in a bedroom without ventilation? How can we prevent this? Give a doctor's advice about airing a bedroom.
5. Should a room be aired from a passage? Can the air of a room be pure if the room is dirty?

VIII.—FURNITURE.

1. **True Cheapness.**—Good, well-made articles of furniture last much longer than those of inferior quality. They cost more at first, but they are really the cheapest in the end. The *kind* of furniture must depend on the means of the buyer. Of whatever kind it may be, the *quality* of the article ought to be of the best. Furniture should be suitable to the house in which it is to be put.

2. **Tables and Chairs.**—For a working-man's house, tables and chairs are better to be made either of plain wood, or of wood simply varnished, than of polished wood. Much less time and trouble are needed to keep such furniture clean. This is of great consequence in houses where 'time is money.' Deal tables and chairs are scrubbed with sand and water.

Varnished furniture should be washed with a piece of flannel and cold water, and thoroughly dried with a towel. Polished furniture needs to be constantly rubbed up to keep the surface bright.

3. **Cooking Utensils** made of glass or earthenware are better than those made of metal. They are much more easily and quickly cleaned.

4. **Beds.**—Iron bedsteads are better than wooden ones for many reasons. They are cheaper, and last much longer. They are more easily cleaned, and they do not harbour insects. A straw palliasse should be placed above the iron laths, to prevent the mattress being worn by the metal, and also to add somewhat to the warmth of the bed, and then a mattress, made either of wool-flock or hair. Chaff is often used as bedding. It should be renewed every year. A firm mattress, however, is the most healthy kind of bedding—above all, it is certainly much better than a feather-bed, which is much too warm and relaxing for the body. No curtains should be used round a bed, unless as a protection against a *direct draught*. Curtains keep the bad air, which has been breathed, round the sleepers. They also prevent free ventilation. This is very unwholesome.

5. Most rooms have **too much furniture** in them. Only that which is necessary for comfort should be allowed. Articles of furniture take up the space which ought to be kept for the air we breathe. A room which is overcrowded with furniture becomes close and unpleasant much sooner than a room which is scantily furnished. Where there is much furniture, greater attention to ventilation is required than where there is little.

6. **Orderliness.**—The furniture should be nicely arranged. A room with a very little plain furniture in it may be made to look better than a room which is full of badly arranged expensive furniture. Orderliness is necessary to the comfort and beauty of a house. 'Have a place for everything, and put everything in its place.' If this were attended to, much time would be saved, and the work of the house would be done with much less trouble. The result would be pleasant to the whole household.

7. All **Presses** and **Cupboards** ought to be kept in good order. One should see at a glance what is on each shelf. Everything which is in daily use should be placed within easy reach. It is a good plan to cover the shelves of presses with clean newspaper. This can be often renewed, and at no expense. The paper keeps the shelves from getting stained and dirty, and makes it unnecessary to scrub them often. As there is no draught of air through our presses, the shelves take long to dry after being scrubbed. Nothing ought to be put upon the shelves while they are damp, and it is often very inconvenient to have the contents of the press standing out on the table for several hours. It is much easier to lift out the things, dust them, take away the soiled paper, put in clean paper, and at once re-arrange the dishes &c. in their proper places on the shelves.

8. **Meat-Safes.**—Remains of cooked food and uncooked meat should not be kept in a close cupboard. It ought to be put where there is plenty of fresh, cool air. In warm weather, it should be covered in such a way as to admit the air, and to prevent flies from laying their eggs upon it. The small meat-safes which can be fixed on the wall outside the window, are very useful. They are made of wire-gauze or perforated zinc, through which the air can pass freely. All insects and dust are effectually excluded. If a meat-safe cannot be had, it is a good plan to keep meat where there is a constant draught, covering it lightly, to preserve it from dust and insects.

QUESTIONS.

1. What advice would you give to any one buying furniture? What would you say about most cheap articles?
2. Why would you recommend plain furniture for a working-man's house? How do you clean varnished furniture?
3. Why are cooking utensils of metal troublesome?
4. Give reasons for purchasing an iron bedstead. Name the different kinds of mattresses. When may we usefully put up bed-curtains?
6. Give the proverb that teaches orderliness.
7. Tell what you could do to keep a cupboard clean and tidy. Why should we 'paper' the shelves?
8. Where ought we to put food either cooked or uncooked?

IX.—HOUSEHOLD HINTS.

1. **To Keep Eggs.**—Eggs should be collected in spring or summer when they are cheap, and preserved for winter use. Rub the eggs with a little butter, lard, or dripping, and pack them (the small end being kept uppermost) in salt. They should be firmly imbedded in the salt, and kept entirely from the air. The salt can afterwards be used for cooking purposes.

2. **To Wash Hair-Brushes.**—Dissolve a piece of soda about the size of a walnut in a quart of hot water. Comb out all loose hair from the brushes. Dip them, bristles downwards, into the water and out again, keeping the backs and handles as free from the water as possible. Repeat this till the bristles are clean. Then rinse the brushes in cold water, shake them well, and dry the handles and backs with a towel. Set the brushes to dry in the sun or near the fire. Lean them up against something, so that any water may escape freely.

3. **To Clean Sponges.**—Wash them with fine powdered whiting. If very greasy, leave them to soak with a little whiting and warm water for an hour. Be careful to rinse all the whiting well out of the sponge.

4. **To Clean Straw Hats.**—Take out the wire. Wash with a brush and soap and water. Rinse in clean cold water. Rub over with lemon juice or a little weak vinegar. Dry in the open air. When dry, wash them over with white of egg well beaten. This stiffens the straw.

5. **To Clean Oil-Cloth.**—Sweep and dust it carefully. Wash with milk and water. Rub dry with a towel. Soap and a brush very soon spoil it.

6. **Furniture Polish.**—One pint unboiled linseed-oil, one wine-glassful of whisky, half a wine-glassful of vinegar. Mix well before using. Put on the furniture with a woollen rag. Then rub smartly with a dry linen cloth till a bright polish is produced.

7. **Liquid Glue.**—To eight ounces glue, dissolved in half-

pint water, add slowly, constantly stirring, two and a half ounces nitric acid. Keep the bottle well corked.

8. **Mixture for Waterproof.**—Put half-pound sugar of lead and half-pound powdered alum into a bucket of soft water. Stir till clear. Then pour off into another bucket, keeping back any sediment there may be. Put the cloth into it, and let it remain for twenty-four hours. Hang up to dry *without* wringing.

9. **To Remove Tartar from the Teeth.**—Apply a little powdered flour of brimstone or sulphur with a brush and a little water. Rinse the mouth thoroughly with clean water. After one or two applications, the tartar is loosened, and crumbles off.

10. **To Remove Mildew.**—Rub the spots with soap, and scrape some fine chalk over this. Rub it in, and expose the cloth to the sun. Repeat this till the spots disappear.

11. **To Clean Varnished Oil-Paint.**—When tea has been infused and taken, pour a little boiling water on the spent tea-leaves; let it stand ten minutes, and with this tea-water and a piece of flannel wash the paint. It loosens the dirt readily. The paint should then be wiped dry with a clean cloth.

12. **To Brighten a Fire.**—If a coal-fire is low, throw on a little sugar, and it will brighten it at once; or put in a piece of dried orange-peel.

13. If a chimney be on fire, throw common kitchen salt on the fire, and close the doors and windows in the room.

14. **Rags.**—Nothing should be wasted in a household. All that will make paper may be sold. Rags, cotton and linen, which are in too small pieces to be used for patchwork, should be kept separate in a bag and sold to the paper-merchant. Paper itself can be re-made into paper. If collected for this purpose, printed paper should be kept separate from writing-paper, and sold separately. Scraps of woollen material make winter coverlets, hearthrugs either woven or knitted, or they may be sold and re-manufactured into felt of various kinds.

15. **Bones** should be thoroughly dried when no further nourishment can be taken out of them by boiling. They

may then be kept without fear of decaying, till a sufficient quantity be collected, and sold. They are crushed and used as manure.

16. **Uses of Paper.**—The value of paper for warmth is not generally known. Two sheets of newspaper, or a sheet of brown paper, may be bound with braid or old calico, to prevent tearing, and laid under the coverlet. This adds little to the weight, and greatly to the warmth of the bed-clothes. Warm soles to put inside shoes and boots may be made of brown paper, doubled, cut the right size, and bound with tape or braid. These soles can be renewed often at little or no expense.

17. **To Clean Hair Mattresses.**—A mattress should be cleaned at least every two years—the ticking washed and the hair cleansed. Take out the hair and plunge it into a tub of lukewarm water in which a handful of soda has been dissolved. Move it up and down in the water, squeeze it as dry as possible, and put it into a basket placed on the top of another tub, or in the open air. After it has dripped for about an hour, spread it out on a sheet in the sun or in front of the fire. It dries very soon, and will be found as crimp and full of spring as when new. The ticking may then be re-filled, bound, and stitched down.

FOOD.—DIVISION II.

I.—THE FUNCTIONS OF FOOD.

1. **What Food does for us.**—The food we eat has several duties to perform: it keeps the body in repair—renewing our flesh and fat, and forming and strengthening our joints and bones; it makes us warm, and gives us strength for work; and it enables us to lay up a store of materials for future use.

The constant movements of the body cause a corresponding waste of all the substances of which the body is composed. **Nitrogenous** foods are those which chiefly form flesh; the supply of them must therefore be in proportion to the amount of waste which takes place daily. A certain degree of heat must also be kept up in the body, in order that its actions, internal and external, may be properly carried on. All vital actions *produce* heat, but some of this heat is constantly being carried away by the air around us, which has a lower temperature than our bodies. This waste or loss of heat must be made good by the food we eat; and of course we must be provided continually with the energy or strength used in moving and working. **Carbonaceous** foods—containing fat, starch, or sugar—are those which chiefly give us heat and energy; and they must consequently make part of our daily food in one form or another.

It must not, however, be supposed that any one class of food is alone required for performing each of the several tasks food has to fulfil. The nitrogenous foods help *chiefly* to build up and repair the muscles, but they also enter to a certain extent into many other tissues. The principal duty of the carbonaceous foods is to supply warmth and power of work; but they also help to form the nerves and membranes, and are needed for the formation of fat. The mineral elements, too, contribute largely, along with the nitrogenous and carbonaceous classes of food, towards the making of the bones and teeth, besides being found in almost every fluid and solid of the body. The most wholesome diet consists of a mixture of the various kinds of food.

Some of the things we drink are liquid foods, and contain the same elements as the solid foods. Some of those commonly taken are not foods at all. Tea and coffee are not foods, but they stimulate our nerves, and prevent our tissues from wasting. Cocoa and chocolate contain some nourishment. Beer and spirits contain very little nourishment indeed, and are best as medicines.

2. **How Food is made use of by the Body.**—In order that our food may be enabled to perform its various duties, it undergoes many changes by means of a system of organs within our body. This system, like a kind of machinery, works silently and constantly. We have comparatively little power over its movements, and have only to supply it with materials for its work, properly prepared. Our food must first be thoroughly chewed and moistened with the saliva in the mouth. It is then conveyed into the stomach, and after it has been digested by gastric juice poured on it by the stomach, the valuable parts of it, now in a liquid form, are gathered up by an apparatus for the purpose. By various organs the nutritious material is further changed, till it becomes blood; and this new strong blood is gradually mixed with the rest of our blood. The blood in its turn carries its nutritive substance to all parts of the body, distributing the needful supplies to the various muscles, nerves, and other portions of our frame.

3. **Varying Need of Food.**—The daily waste of heat and waste of tissue are not the same in all persons and at all times; the supply of warmth-giving and flesh-forming food must therefore also vary in quantity. Age and occupation have much to do in determining the amount needed daily. The age of the individual has a great influence. Young people who are growing require more food than those whose growth has stopped, because the young must not only repair the daily waste, but must besides take enough of food to make new flesh and bone. Hence it is not strange that

children should often seem to have much larger appetites than full-grown men and women. As regards occupation, we must remember that the amount of waste in the body is in proportion to the amount of movement. This explains how a man who has much exercise of muscle, needs more food than one whose occupation causes little movement—how a domestic servant needs more food than a dressmaker, and so on. At all ages, and however occupied, we trust to our appetite to guide us as to how much food we ought to take at a time. And if the appetite be healthy, we may trust it fully. The quantity of food which is required changes with the amount of work we do ; and as the amount of work done has an influence on the appetite (giving us a desire to eat more than usual whenever great waste of tissue has taken place), we are almost sure to get the proper amount of daily food. It is to be remembered that the wants of each day must as far as possible be supplied from the food of that day.

4. **Reserve Supplies.**—The body has the power of storing supplies for use at some future time. This power is not the same in all persons, neither does it depend on the amount of food which is eaten. Some people eat largely and yet store up very little. Others, again, who eat little, seem to have the power of storing much. The store of supplies for future wants which is laid up in our bodies consists chiefly of fat. It is produced from the fat, starch, and sugar taken as food. It occurs principally when the amount of these substances is greater than the body requires for the purpose of renewing its heat. Fat is found separate in different parts of the body, and also mixed up with the other structures in the shape of an oily fluid. This storage of fat is very useful. It supplies the body with heat-giving material, if that is withheld from any cause—either from the absence of daily food or from the want of appetite to take food. On the other hand, the storage of food in the body may become a burden, in spite of its usefulness. Neither the mind nor the body can be fully active if there is a large increase of the size and weight of the body.

5. **Excess of Food.**—In all foods there are certain parts which go to form neither heat, flesh, bone, nor fat. These

are pure waste, and pass away from the body. Further, any food that is more than the body requires or can make use of, also passes out of the body in various ways—by means of the perspiration, breath, and otherwise. Thus ordinarily the weight of the body changes little from week to week if its daily wants are daily supplied. But very often food taken in excess is positively hurtful. If the skin and other organs are unable to cast it off, it remains in the body and causes disease. It is easy to know when we have eaten too much. There is a feeling of uneasiness and sleepiness after meals; the breath is hot and smells badly; there are often pimples on different parts of the skin; and the sleep is disturbed.

QUESTIONS.

1. Name the duties performed by our food. Why do we need flesh-forming food? Why must we keep up the heat of the body? How is this heat lost? What kinds of food renew it? What food gives us the strength spent in working? Mention some drinks that are not foods.
2. How is the nutritive material got from the food? How is it conveyed to the parts of the body that need it?
3. How does it happen that some people need more of these foods than others? Why do children need more food than grown-up people? What ought we to consider in regulating our food? Why does a working-man require substantial food? What is our guide as to quantity? How is it that our appetite varies?
4. How do people store supplies for future wants in their bodies? Of what do these stores consist, and how are they obtained? How is this storage of fat useful to the body?
5. What harm is done by an excess of food? What are the signs of over-eating?

II.—DIET.

There are five things to be attended to with regard to our daily diet—**Times, Regularity, Quantity, Kind, Cooking.**

1. **Times.**—During the period of growth, meals should be taken frequently. All the movements of the body and in the body are rapid in the young, and a great deal of waste goes on. This must be made up for by repeated meals. Children

should have four meals a day. If fed on plain well-cooked food, they should be allowed to eat as much as they seem to want. When growth is completed, the machinery in the body works more slowly, and it is found better to take meals less often. In this, every one must judge for himself. It is well to take a good breakfast before beginning the work of the day. After working for some hours, the breakfast is consumed, and we feel hungry. We should then take our dinner. This ought to be the heartiest meal of the day. It makes up for the waste caused by the morning's work, and it renews our strength for the work which still remains to be done. When the hardest part of the day's work is finished, we do not need much food, and therefore we ought not to eat a great deal of solid food to tea, about five o'clock. Of course, our duties must determine this. If work has to be done during the evening, we must make ourselves strong for that work by eating enough of food to support us. As no work is generally done after supper, that meal ought to be a very light one. During healthy sleep, all parts of the body rest to a certain extent—digestion goes on more slowly; the blood circulates more slowly; breathing, too, is slower. If, however, a heavy meal be taken, the digestive organs are forced to do active work. This causes the blood to circulate more quickly, and the breathing to become more rapid. Sleep is thereby much disturbed, and not so refreshing as it ought to be. Supper should be taken at least two hours before going to bed.

2. **Regularity.**—If hours are fixed for meals, they should be strictly kept to as far as possible. This is very important. The body works by rule to a great extent. If accustomed to receive food at certain times, it learns to be ready for it, as it were. The stomach and other organs are put out of order by irregularity. They will not do their work properly if badly used.

3. **Quantity.**—As to the quantity of food required, we have already shewn how that must be fixed by each one according to age and occupation.

4. **Kind.**—A mixture of animal and vegetable food is generally considered the best kind of diet. It is of import-

ance to have as great a variety of food as possible, not only at the different meals of each day, but on the different days of each week. For instance, it is wrong to be content with tea and ham three times a day, or with broth four or five times a week. A little forethought and trouble, *without extra expense*, is alone needed to provide a variety of nourishing food from day to day; and the benefit derived from this variety will soon be seen in the increased health and happiness of the whole household. Doctors have repeatedly called attention to the low state of health which prevails in prisons and workhouses, and they attribute it *mainly to monotony of diet.*

5. **Cooking.**—This is intended to make our food more agreeable, but chiefly to make it tender. This helps the work of various parts of the body to a great extent. Attention should be paid to the best modes of cooking different kinds of food. Indigestion and many other ailments are more frequently caused by inattention to cooking than by carelessness with regard to anything else connected with our diet.

QUESTIONS.

1. What are the points we should attend to in our daily diet? How many meals would you give children daily? Why? Which meal should be the heartiest? Give reasons. Why not eat much solid food to tea? How can we hurt ourselves by eating a heavy supper?
2. Why should we be regular in our meals?
3. What would you say about quantity?
4. Why is a variety of food necessary? How is variety pleasant? How can this be obtained? What is the result of monotony of diet?
5. Why is food cooked? How may careless cooking affect the health?

END OF PART II.

PART III.

DOMESTIC ECONOMY.

PART III.

RULES FOR HEALTH; AND THE MANAGEMENT OF A SICK-ROOM.

I.—HEALTH.

Health is not only freedom from bodily pain; it is the power to receive pleasure from everything around us; it is the capability of using all our faculties and of enjoying the use of them. Health is *happiness,* to a great extent. In health, our bodily organs should do their work without our knowing that any such work is going on; as the saying is, 'We should not know that we have heads, stomachs, or lungs.' Health is a blessing which is without price, and one which is too often despised until it is lost, never afterwards to be fully regained. By obedience to certain rules, we may all do much to keep our health good; but it is an almost impossible task to restore it, if once allowed to fail through carelessness and neglect.

The chief necessaries for health are *exercise, rest, food, fresh air, warmth, light, cleanliness,* and the *care* of our eyes, ears, and other organs.

1. **Exercise.**—The first great law of life is *movement.* Life and movement cannot be separated. Nothing is altogether at rest except those things which have no life. We are

not conscious of many of the movements that go on without ceasing in our bodies; if, however, anything happens to stop even the smallest of them, we at once become aware of it through pain or discomfort. But for health it is not enough that only these imperceptible movements should go on regularly. *All* the parts of the body must be used and exercised. Otherwise they have a tendency to degenerate. When a limb is broken, and, in consequence, has to be bound up and kept motionless for weeks, the muscles shrink and lose the power of moving; and it is often a long time after the bone is quite strongly mended that the leg or arm begins to move freely again.

Exercise is necessary at all periods of life, for without it the work that goes on in the body is never wholly satisfactory. But it is all-important for the *young.* Unless there is much bodily exercise, the bones and muscles remain weak and small, and the internal organs, having no room to develop, are stunted likewise. This can be seen in the difference of size which generally exists between country and town-bred children of the same age. Continual running about in the open air develops the bodies of country children.

Great care ought to be taken that the exercise is not *violent* nor the movements too *rapid.* If the muscles are sore or the heart beats painfully after exercise, it has been too prolonged or the movements have been forced. A few minutes should be quite enough to restore the body to its former state. The exercise should not be confined to one part of the body alone. As many of the muscles as possible should be exercised every day. House-work and many trades give pretty general exercise to the whole body, but when one set of muscles is more used in our daily work than another set, we can make up for it by the exercise we take when the work is done; those who have to sit much should walk about as much as they can after working-hours.

Exercise increases the action of the skin, which becomes hot and perspiring. The perspiration is of great use, for it cools the body, which has been heated by the exercise. But when the exercise stops, the production of heat stops too, and the skin, being moist from the perspiration, is very susceptible of cold. It is well, therefore, to add to or change our clothing after exercise. After much or long-continued exercise the next meal should be *light* and easily digested. The strength of the body is exhausted for the time by the exercise, and consequently the digestive power is weakened. Neither is it good to make any violent exertion *after* a full meal. One ought to rest, or at least take only gentle exercise, for about half an hour after eating.

Thus, the whole body must be exercised, but not too violently or too long; nor should exercise be taken immediately before or after a full meal.

2. **Rest and Sleep.**—Now, this exercise of the body cannot go on without times of rest. Of course, we do rest several times during the day—at meal-times, for instance. But it is during the night that we rest thoroughly, the mind as well as the body, and become refreshed and able for the next day's work. Yet these daily and nightly rests are not sufficient to keep up our health perfectly. Our bodies have a positive need of the rest of Sunday, apart altogether from the moral and religious benefits which we gain by keeping that day sacred and free from labour. Not that we should allow the day to be passed in sleep or idleness. Rest consists more in complete change of work than in its absence. Besides this weekly rest-day, it is found very useful to have a short time of thorough rest from our daily labour for a few days or weeks every year. This refreshes the mind as well as the body, above all, if one can have change of air and scene, as well as change of occupation.

Sleep is necessary to life and health. During sleep, mind and body are alike at rest. All the movements of the body are at their lowest point. The circulation of the blood, breathing, and digestion go on more slowly than when the body is active. Darkness, silence, and unconsciousness give complete rest to the senses. Sleep is more or less sound, and consequently more or less refreshing, according to circumstances. One ought to have moderate exercise and a light meal some little time before going to bed, and if possible the mind should not be *excited* with thought or anxiety. Further, the bed must not be too *warm*, and the room should be *dark*, *quiet*, and *well ventilated*.

Generally speaking, people sleep too much. About eight hours' sleep for a grown-up person, and rather more for a child, is believed to be enough. But no rule can be given, as the amount of sleep required differs with the individual. It is well to go to bed *early* and to rise early. 'One hour's sleep before midnight is better than two afterwards,' is an old saying. Besides, the bright fresh morning hours are the best for work of all kinds, and it would be well if those who sit up late 'in order to work' would believe it.

Thus, for sleeping well, the mind should be easy, the bed not too warm, and the room dark, quiet, and airy; we should not sleep more than about eight hours, and should go to bed early.

3. **Food.**—The different parts of the body must not only be exercised but fed in order that they may grow, and, when growth is over, that they may be kept in repair. Food must be *well cooked* in order to nourish the body. It should also be *well chewed*, so that every particle be broken down and mixed with the saliva in the mouth. After it is swallowed, we have no further control over it, but the work done by the different organs in the body is either helped or hindered by good or bad cooking and mastication. We must not eat *too rich* food, nor *too much;* over-eating is a frequent cause of illness. Our appetite ought to guide us as to the amount of food which is required daily. Certain *fixed times* for meals ought to be strictly kept to, as irregularity with regard to this is bad for the health. It is important that nothing be eaten *between* our usual times for taking food. However little it may be—a sweetmeat or a bit of bread—it disturbs the work of the stomach.

It is good to drink something *warm* with our food once or twice a day, and tea and coffee are now used almost without exception at the morning and evening meals in this country. They furnish us with an agreeable warm liquid which helps digestion. But as they are stimulants and excite the nerves, they must be taken in moderation and *always* along with solid food. The water we drink and that with which our food is cooked should be *pure*. Drinks containing alcohol are not useful as food, and as they may do serious harm, it is well to use them only as medicines and when ordered by a doctor. They seem to give strength, but that strength passes away, and the body is left weaker than it was before. Excessive use of them causes disease, accompanied by fearful suffering.

Thus, our food should be well cooked, well chewed, and not too rich; nor should we eat too much; fixed times should be kept; tea and coffee should not be taken except along with food.

4. **Fresh air** is as necessary to health as good food. We ourselves spoil the air by the very act of breathing, and we must be careful that the bad air we breathe out is allowed to escape, and that there is a constant supply of good air for us to breathe in. The drainage must also be carefully looked after, and all close smells got rid of. By attending to the rules for *ventilation* (Part II.), we can always supply our sitting-rooms, work-rooms, and bed-rooms with fresh air. If we live in towns, we may do our health good by taking every opportunity of a *walk* in the country, or in any open space in the town.

Thus, we must secure fresh air by ventilating our houses, and by occasionally walking in the open air.

5. **Warmth.**—The whole body must be kept moderately warm; and to this end we live in houses and protect ourselves with clothes. We ought to avoid *extremes* of heat and cold; our aim should be, by means of our clothing, to keep the temperature of our bodies the same in summer and in winter. It is especially hurtful to *change* suddenly warm dresses for light ones, or to expose a part of the neck which is usually covered. Thin or insufficient shoes out of doors are dangerous. Our clothes are meant to keep us warm; none of them should be so *tight* as to squeeze or compress our bodies. Tight stays, garters, or boots, by preventing our blood from flowing easily, hinder warmth, and are destructive of comfort and health.

Thus, our clothing should enable us to avoid extremes of heat and cold; and should therefore not be suddenly lessened, nor should it be too tight.

6. **Light** has a direct effect on our minds, and through our minds, on our bodies. If the body is ill, the mind suffers too, and becomes dull and depressed. On the other hand, if the mind is bright and cheerful, the body feels stronger and more active, and is consequently more healthy. We are much like plants with regard to light. If plants are grown in the dark, they are weakly and colourless. So it is with human beings. Those who live in dark houses are pale and sickly, and are liable to many diseases both of body and mind; their bodies often are stunted or deformed. In large towns there are often dwellings underground, and also houses in high narrow streets where the sun never shines. These are all unhealthy.

Without living in such miserable houses, however, people often live in rooms which are much darker than they ought to be. Window *curtains* and *blinds* too often shut out the light from our rooms. And besides, some people have a foolish practice of crowding the window with tall and climbing plants, which rob them of some of the light they ought to have; though one or two low-growing plants do no harm, and are an unfailing source of pleasure and interest. It is well to have *light-coloured* wall-papers and paint in our rooms, and to keep the ceiling and floors clean, so as to make our homes bright, cheerful, and healthy.

Thus, to secure light, we must choose properly situated houses; and see that blinds and curtains do not make our rooms dark.

7. **Cleanliness.**—The chief rule about dirt is to get rid of it as quickly as possible. Hence the necessity for cleanliness in every particular. Personal cleanliness is necessary to health. The skin has millions of little pores or openings, through which part of the daily waste of the body is removed in the shape of perspiration. If the skin is not constantly washed, the dirt lodges on it, and forms, with the perspiration, a dirty and offensive crust which closes up its pores. Many

more diseases are the result of dirt than people are aware of.

Washing the *whole body* with soap and warm water very often is necessary to health. If it can be done, a *cold bath* every morning and a hearty rubbing with a rough towel, is good for young people. It is bracing, it strengthens the skin, and it makes one less liable to take cold. In small houses, however, it is difficult to manage a complete bath. But surely nothing can prevent one from washing face and neck, hands, arms, and feet *daily*. This, with a warm bath at least once a week, will keep the skin healthy.

Sea-bathing, if done with care, is bracing and healthful. It is important to cover the whole body with water, so that all parts may be equally cooled. And, unless the bather keeps up his heat by swimming, he should not remain in the water longer than about five minutes.

The use of *clean clothing* is almost as important as washing the skin. The clothing takes up part of the decaying matter which is in the perspiration, and soon becomes offensive if not frequently changed.

The *hair* ought to be kept clean by constant brushing and occasional washing. A little borax or ammonia dissolved in warm water is a good thing to wash the hair with. Soap is not needed, because the borax or ammonia mixes with the oil in the hair and forms a lather, which must be well washed off in repeated waters. Less rubbing is required than when soap is used; the hair is less entangled, and consequently less difficult to comb out afterwards.

The care of the *teeth* is also a most important matter. We cannot chew our food thoroughly if the teeth are decayed and broken. Little bits of food often remain between the teeth after a meal. The heat of the mouth causes them to decay, and this decaying matter, acting on the enamel of the teeth, injures it. Whenever the smallest point of decay is noticed, the tooth should be *stopped*, to prevent the disease from going any further. Perfect cleanliness of the teeth preserves them against decay to a great extent, but this can only be attained by *brushing* the teeth once a day, and by *rinsing* the mouth with water after every meal. Fresh fruit is good for the teeth, as the acid it contains cleanses them and helps to destroy the yellow tartar which grows on and between them, and is another cause of ruin and decay.

Thus, for cleanliness, the whole body must be often washed, some parts of it at least daily; we must have clean clothing; and our hair and teeth must be specially attended to.

8. It is of the greatest importance that the whole body be cared for—exercised, fed, rested, supplied with fresh air, light, and warm clothing, and also kept scrupulously clean. Some parts, however, more than others require very special care, as they are peculiarly liable to injury. The *eye* and *ear* are most complicated in their mechanism, and may very easily be hurt and made partly or wholly useless. If the eye be overworked, above all in artificial light, it gets weak, and the slightest exposure to cold may then cause inflammation, which too often ends in *blindness*. There are also indirect causes, such as impure air, improper and insufficient food, and want of personal cleanliness, which make the eyes weak, and bring on painful diseases of various kinds.

Deafness is more often due to carelessness than is known or believed. Nothing should ever be *pushed* into the ear. Insects sometimes get in and cause discomfort; but they may usually be got rid of by pouring in a few drops of warm oil. In washing children's ears, great harm is often done when, if a little water or soap is allowed to go too far, the hard corner of a towel is twisted and thrust into the ear in order to dry it. If anything touches the inner membrane, it is very apt to injure it, and to cause partial, if not complete deafness. A child should never be struck on the ear, because there is a risk of the delicate membrane being burst by the concussion, which would instantly cause permanent deafness.

Thus, the eye must be carefully used and not overworked. The ear should not have anything thrust into it, or be struck.

QUESTIONS.

1. What is health? Give some rules for the regulation of exercise. Why should those who sit at work walk about after hours? How can we prevent cold after taking exercise? Why not take a hearty meal after exercise?
2. In what circumstances shall we be most refreshed by our sleep? How long ought a grown-up person to sleep? How long a child?
3. How shall we best profit by our food? What caution would you give regarding tea and coffee? What about alcoholic drinks?
4. How is the air of a room spoilt?
5. How should clothing regulate the temperature of the body?
6. How are we affected by light? What is the appearance of people who live without light? Tell some of the ways by which we sometimes exclude the light.
7. How is the skin affected by dirt? How may the skin be kept in order? Give directions for washing the hair. Why is it necessary to keep the teeth clean?
8. Name some causes which injure our eyesight. Mention ways in which our hearing may be injured.

II.—SIMPLE CURES FOR SLIGHT AILMENTS.

In cases of serious illness, when there are any unusual symptoms, it is well to get medical advice without delay; great harm may be done by waiting even for an hour. There are, however, many slight ailments and accidents of daily occurrence, which may easily be relieved and cured without a doctor's help. The following are remedies for such cases.

1. **Colds.**—So many serious illnesses arise from a cold being neglected, that it is important to give it immediate attention. A cold is caused by the surface of the body being chilled, and is cured by anything which will restore the general healthy tone of warmth to all its parts. Additional clothing should be put on, a gruel or treacle-posset (see page 104) taken, and the feet bathed in hot water. By these means a flow of perspiration is encouraged, and, if

great care be taken to guard against a second chill, the disagreeable effects of the cold will soon disappear. If the chill is noticed at once, its evil results may be checked by repeated doses of camphorated spirits of wine—five drops on a morsel of sugar every fifteen minutes, till one feels the chill passing off.

2. **Boils.**—The skin of a boiled egg is sometimes used for a boil—the skin being carefully peeled off and applied *wet* to the part affected. This is cleaner and more pleasant than poultices of bread-and-milk and porridge. A piece of linen rag dipped in glycerine is also a useful remedy.

A gum-boil may be relieved by a piece of roasted fig being laid on it.

3. **Sprains.**—A sprain is caused by twisting or stretching the muscles of any limb, and, if not severe, it may be cured by frequent bathing with hot water, along with perfect rest for a day or two. If the part continues weak, it may be strengthened by repeated drenching with cold water.

4. **Burns and Scalds.**—If the skin is unbroken, the part should be immediately wrapped in cotton-wool or wadding to keep out the air. If, however, the skin is broken, it should be dredged with flour before being wrapped up. Blisters should not be broken, because in time the water they contain is absorbed, and this helps the healing process.

5. **Cuts**, when they are not very serious, heal quickly if bound up at once; they should not be touched with water. The blood itself helps the parts to unite. If, however, anything impure has entered the wound, it is apt to gather or suppurate. It is then necessary to poultice with bread-and-milk or linseed-meal.

6. **Chilblains** and **chapped hands** are much more easily prevented than cured. By care in keeping hands and feet warm by means of exercise, and by attention to thorough drying of the skin after washing, these may be avoided to a great extent. In both cases, glycerine is a valuable remedy. It should be gently rubbed on the part affected. Chilblains may also be prevented if, as soon as the fingers or feet begin to itch and tingle, the parts are rubbed with a little tincture of arnica.

QUESTIONS.

1. Why should we immediately send for a doctor in a case of serious illness? How would you cure a cold?
2. Mention a cure for boils.
3. What helps a sprain?
4. What remedy would you prescribe for a burn or a scald?
5. How would you dress a cut finger?
6. How are chilblains prevented?

III.—THE SICK-ROOM.

At one time or another every woman will probably have the management of a sick-room under her charge, whether it is used for a mere passing ailment, or for long-continued disease; thus it is important that she should have some rules for her guidance. But, for the most part, her head and heart must help her when the time comes, because circumstances might be such as to make it difficult to carry out the directions she had previously learned.

A little book by Florence Nightingale, called *Notes on Nursing*, will be found an invaluable help to all who have charge of a sick-room. The following simple directions are suggested by it:

1. **The Sick-room.**—The less furniture there is in the room the better. **Hangings** of all kinds—curtains and valances—ought to be avoided, and little or no carpet need be used. A simple iron bed, with palliasse, and hair or wool mattress, and light bedclothes, is the best for almost all invalids. The bed must be *carefully guarded from draughts*, placed if possible within sight of the window, and far enough from the wall to permit of the nurse being at either side as circumstances may require. The greatest possible attention must be paid to the *ventilation* of the sick-room. By means of a small fire and open windows, night and day, the air may be kept pure and fresh, with little or no risk of the patient catching cold. The windows should not be darkened with

blinds or shutters (except in special cases)—light being quite necessary to the sick. Everything in and belonging to the sick-room must be *thoroughly cleansed* each day—dust being removed with a damp cloth from furniture, floors, walls, and windows, and every utensil emptied, well rinsed and dried as often as it is used.

2. As to **the Patient**, cleanliness is of the utmost importance. The body ought to be daily washed with warm water and dried with well-aired towels, care being taken to prevent a chill from too large a surface of the skin being exposed at once. *Body-linen* and *bedclothes* should be frequently changed and carried away from the room without delay. In many diseases special care is required to keep the patient comfortably warm by means of hot-water bottles or hot bricks; and this is particularly the case towards dawn (the coldest part of the day), when, without this care, many patients sink merely from want of external heat. As regards *food*, when a special diet is not prescribed, the patient may be allowed what he fancies, subject to the doctor's approval. Invalids require food frequently, and very little at a time—sometimes, indeed, no more than a spoonful of wine or arrowroot or beef-tea, but in such cases this must be repeated two or three times an hour. A fright or *sudden noise* is very hurtful to the sick, particularly when it wakes them from sleep, or even rouses them from mere drowsiness. As far as possible, a patient should be kept *cheerful*, and led to think of things and people apart from himself. The monotony of the sick-room ought to be varied from day to day by a bright flower on the table, or a new picture hung where it can be seen without effort, or a visit from a friend.

3. **The Nurse** must remember that her duties consist as much in attending to all that affects her patient—fresh air, light, cleanliness, &c.—as in giving the medicines ordered by the doctor. This she must do with the greatest precision, never forgetting, however, that the patient needs much attention in many ways which a doctor would not think of specifying to her. Her dress should be soft and of a material which will wash well, and list slippers are useful in the sick-room because of their noiselessness. *Whispering* either to the

patient or to any one in the room or at the door *ought to be avoided*, and any continuous irritating sound, such as the flapping of a blind or rustle of paper, should be stopped at once. A nurse had better prepare all food for her charge herself, but *not* in the sick-room, and it should be brought to him nicely served, hot, and not more in quantity than he is likely to take.

While devoting herself with constant watchfulness and self-denial to the care of her patient, the nurse must not forget that she has a duty to fulfil towards herself, which if neglected will soon render her unfit for her responsible position. She must attend to her own health, and should take every precaution against over-fatigue, or exhaustion from long fasting. It is desirable above all that she should have a little exercise in the open air every day, and a few hours of *uninterrupted* sleep.

4. **Disinfectants.**—Some of these are very cheap and easy of application. *Condy's Fluid* and *Carbolic Acid* are of great value in all cases of infectious disease. A pail of water, with a little of one or other mixed in it, ought to be kept at hand in which to steep all clothes worn by a patient before they are taken from the sick-room to be washed. In severe cases of infectious disease—scarlet-fever, for instance—it is well to hang a sheet outside the sick-room door, and keep it saturated with a dilution of carbolic acid, care being taken that it covers every chink through which the air could pass from the sick-room into the rest of the house. Carbolic acid or Condy's fluid should be mixed with the slops before they are carried from the sick-room to be emptied. *Chloride of Lime* is also used as a disinfectant. It may be put in saucers in different parts of the house, or sprinkled over the floors.

QUESTIONS.

1. **Why should every woman know something of sick-nursing? Give a general account of the appearance of the sick-room. Where should the bed be placed? Tell particularly how you would ventilate a sick-room. How would you maintain cleanliness?**
2. **How can external heat be applied to a patient? When is this particularly necessary? If your patient were very weak, how would you feed him? How could you promote cheerfulness?**

3. How can a nurse maintain quiet in a sick-room? How does whispering in the room affect the patient? What are the duties of a nurse towards her patient? Towards herself?
4. What are the best disinfectants? How should they be used?

INCOME, EXPENDITURE, AND SAVINGS.

I.—INCOME AND EXPENDITURE.

1. The word Economy is used most commonly to denote *thrift* as regards the spending of money; and this is certainly a most important part of Domestic Economy in the wider sense. It is the duty of all, rich and poor, to be *economical* in every particular—to use everything to the best advantage, and to waste nothing.

It is quite impossible to lay down fixed rules on the subject of Income and Expenditure, or the earning and spending of money. The conditions in one family vary so much from the conditions in another family—wages rise and fall, prices of fuel and provisions change, rent is different in town and country—that each home must have rules for itself which suit its circumstances, and would probably be impracticable in the house next door. Yet there are some principles that hold good in all cases.

2. **Regular Accounts** of all money received and paid out should be kept and balanced every week. If this be done carefully, and one week's expenditure compared with another, the proper proportion of what is to be spent for food, clothing, or fuel, may be easily arrived at. The failures and mistakes of one week or year will teach more than a book full of rules.

3. **Rent** and **Taxes** and **School-fees** must first be laid aside, and then a calculation of the weekly expenses should be made, and kept to, as far as possible. Many small incidental expenses are apt to occur, and it is well to be prepared for them by adding them to one's calculation of expenditure. One cannot say what exact proportion of income ought to be spent on house rent, clothing, or food; but the good advice on the subject given by the father of Frederick

the Great may well be kept in remembrance: 'As regards a house, live *above* your income; as regards clothing, live *below* your income; as regards food, live *according* to your income.' A good dwelling is so important to health, that one had better spend more on it than on dress.

4. **Dress,** after providing for the necessary warmth of the body, ought to be neither fine nor extravagant. Mere ornament in dress is useless, costs a great deal, and is only allowable when all the necessaries of life have been fully provided for. It cannot be too earnestly insisted on that to have good serviceable material, made simply and in accordance with the position and duties of the wearer, is the real secret of being well dressed.

5. When it is possible, it is better to buy groceries in *quantities*—three or four pounds of any article at a time. The grocer naturally requires a larger profit in selling small quantities—his time and trouble, paper and string, are thus indirectly paid for. Besides this, some things, such as soap and candles, improve by keeping, and it is therefore economical to have a supply of them in the house.

6. If this plan be adopted, there is little or no temptation to deal at the chandler's, or small provision shop, where one may buy almost anything in the shape of food. There may be some slight convenience in buying from such shops at a time, but one seldom gets articles cheap and of thoroughly good quality. It is therefore much better to buy direct from regular tradesmen, grocers, bakers, and butchers. So also in the matter of dress. It is very unwise to buy from the *tallyman* or travelling draper. He cannot supply good material as cheap as an established merchant who sells for ready money, because, besides the price of the articles bought, he must be paid for his time, trouble, and expense in travelling from door to door. Further, he is willing to take the payment in several instalments; but he must also be paid for this, and so a little more is added to the true price of the article purchased.

7. **Credit.**—The greatest difficulties of housekeeping may be avoided by *keeping out of debt.* It is sometimes considered easier to buy on credit than for ready money, but in

this way one has no clear idea of how the money is really being spent; and often when the bills are handed in, there is not enough of money to pay them. One is then obliged either to stint the household or to run further into debt. It is well rather to have money in hand, so as to be ready for daily wants, instead of having to part with it all as soon as it is earned, to pay for things which have been got during the past week or month.

8. **Wasting.**—Much money may be saved by making use of everything; by never wasting anything, however small; by remembering that no gain is worthless, and that no loss is wholly guiltless. Idleness is the greatest enemy to true economy. It leads to waste of time, and that to most people means waste of money. 'He that is slothful in his work is brother to him that is a great waster.'

QUESTIONS.

1. Why is it difficult to lay down rules about spending money?
2. How can we get a correct idea of how we spend our money?
3. What expenses must first be provided for from the income? Give a general rule for expenditure in house, dress, and food. Why is it better to live in a good house, and dress plainly?
4. What rule should be followed as to dress?
5. Why should we buy groceries in large quantities?
6. What is the disadvantage of the small provision shop? Of the tallyman's system?
7. What have you to say about buying on credit?
8. Explain how waste of time is waste of money.

II.—SAVINGS.

1. **The Value of Saving.**—When wages are paid for work done, it is of the utmost importance to save a part of the wages every week, which will support the family if strength to work should fail, or if work itself should be unobtainable from any cause. No outsider can fix the proportion of the weekly wages which ought to be saved, but no week should pass without something being added to the savings-bank account.

2. **Savings-banks.**—Now that there are Post-office Savings-

banks in almost every town and country district of Great Britain, they ought to be taken advantage of as an excellent investment for the money which is not required. Small sums of a shilling and upwards are taken in daily, and although the interest which is given is small, the Savings-bank is perfectly *safe*, as it is under government control. The old Savings-banks, under trustees, are also a safe means of investing money, and are preferred by many to the Post-office Savings-bank as the rate of interest is higher. In either, the money can be got back whenever it is needed.

3. **Benefit Societies** or **Clubs**—clothing and coal clubs, friendly and funeral societies—are invaluable, if properly conducted by trustworthy men of business. Small weekly or monthly payments entitle the members to help in times of trouble—clothes and fuel during hard winters, regular weekly payments if laid aside by sickness or disabled by accident, and in case of death, a sufficient sum to provide for all necessary funeral expenses.

4. **Deferred Annuities** may also be mentioned as a good means of investing one's savings. By quarterly or yearly payments for so many years, either to government, through the Post-office Savings-bank, or to a Life Assurance Association, one may secure a fixed annual income, or annuity, for the remainder of one's life. It is called a deferred annuity because the payment of it does not begin till the person reaches the age agreed on.

5. **Life Insurances.**—When one insures his life for a certain sum, it means that at his death that sum will be given up to his friends. He must make regular annual payments; but the whole sum insured will be paid to his relatives, even if he dies before he has paid more than a small portion of the total amount. By another kind of insurance, one may have a fixed sum of money paid over on reaching a certain age.

6. **Early Training.**—Children should be very early trained to a habit of saving. The Penny Savings-bank makes it easy for them to lay aside any small sums of money which they may get from friends or earn for themselves. A few pounds thus saved, instead of being recklessly squandered, may be of the greatest importance when starting in life,

either by helping to provide a suitable outfit, or in paying for advanced classes (after leaving school), neither of which might otherwise be attainable.

QUESTIONS.

1. Why should we strive to save some money?
2. What are the advantages of the Post-office Savings-banks? Why do some people prefer the National Security Savings-banks?
3. What does one gain from well managed benefit societies and the like?
4. What are deferred annuities?
5. What is life insurance?
6. How can children be taught to save? To what good purpose might such savings be put?

FOOD.—Division III.

PREPARATION AND CULINARY TREATMENT.

I.—HOW TO CHOOSE AND KEEP MEAT.

A good manager ought to know how to choose the different kinds of food, and she must also be careful that she uses them to the very best advantage—that she 'lets nothing be lost' which can in any way supply the wants of the human body. It is a true proverb that 'wasters come to want.'

1. **Fresh Meat.**—One must be careful to choose wholesome meat—neither too pale nor too dark in colour—with a little fat, which like the lean should be firm and elastic to the touch. (Bad meat is generally sodden, smells disagreeably, and becomes wet on standing for a day or two.) All meat is nearly equally good as food, but different joints and parts vary in flavour and tenderness. The finer-grained meat has the most flavour, and is more easily made tender by cooking. The sirloin, the first cut of the ribs, and part of the round

of beef, and the leg (or gigot) and loin of mutton, have very fine-grained meat, and are dearer than other parts. However, those parts which are coarser and have less flavour are equally nourishing, and may be made equally tender by good cooking.

2. **Fat and Bone.**—One must consider the amount of fat and the amount of bone. Fat is useful as food, but it does not supply the same kind of nourishment as lean flesh. A neck of mutton, for instance, is very fat, and is therefore less economical than a leg which has little fat, even though the neck costs only about half the price of the leg per pound. Generally speaking, the parts which have much fat are not cheap in proportion to the amount of nourishment that they yield. Almost the same may be said with regard to bone. Undoubtedly, the most economical joint is that which has the least bone in proportion to the meat. It costs more, but it gives a full return for its price. The bones, however, are useful to a certain extent, as they contain a good deal of gelatine (a flesh-forming food). In order to get this gelatine out of them, they should be broken, and slowly stewed for some hours. The liquor, when strained from the bones, may be used for many kinds of soup.

3. **Advantage of Buying Large Pieces.**—It is more economical to buy a piece of meat which will serve for two or three days' dinners, than to buy a small piece each day. This larger piece may either be cooked whole for the first day, part of it eaten cold on the second, and the remains made into a tasty stew or mince for the third day; or it may be cut into sufficient portions for each day, and cooked in different ways. A great variety of savoury dishes may, with care, be made at very small expense, and with very little meat. The cheapest parts are the head, feet, liver, and tripe, which are all good and wholesome, if they are rightly cooked. They require careful cleaning and long slow stewing. With the addition of vegetables, they may make good meals at very small cost.

4. **Keeping Meat.**—Meat is greatly improved by being kept in the house some time before being cooked—about eight or ten days in winter, and two or three days in summer. This

makes it tender. Meat should be kept in a cool place, where there is a draught of fresh air constantly passing. When it is brought from the butcher, it ought to be well scraped, dipped in hot water, wiped *very dry*, and hung up. It should also be wiped every day with a clean cloth. The washing of all joints of meat is important. Meat is usually brought from the slaughter-house in dirty carts, and it may have been wrapped in newspaper. If a joint of meat is new, and has to be cooked at once, it may be made more tender by being covered with a towel, and left on the fender all night in a very moderate heat; or it may be wrapped in a cloth dipped in vinegar, and left in the larder.

5. **Tainted Meat** may be restored by washing in a basin of cold water just tinged with Condy's fluid. The meat must be thereafter well washed in clean cold water, and then all smell will be found to have disappeared.

6. **Salt Meat.**—Although generally cheaper than fresh meat, it is by no means economical to buy salt meat. The coarser parts of beef are commonly salted or *corned*, as it is called, by the butcher. The salt draws out the juices—the most valuable part of the meat—and these are thrown away in the brine. There is then little but hard and often indigestible fibre left, which does not contain much nourishment. In summer, it is sometimes useful to salt meat slightly for the purpose of keeping it, but it is better to do it at home, when, by the addition of a little sugar to the salt with which the meat is rubbed, the fibre is kept softer, and is consequently more easy of digestion. Beef and mutton should not lie in salt more than four or five days. Pork, however, may be left in salt for about a week, care being taken to rub and turn it every day.

7. **Bacon.**—In choosing bacon or ham, it is important to see that the rind is thin and clean-looking, and the fat of a pinkish colour. A ham should be short in the knuckle, and broad across the widest part. It is much more economical to buy the half of a large ham than a small ham of 6 or 8 lbs. There is less loss in cooking it, and the flavour is generally much finer. On the whole, bacon and ham are dear foods in proportion to the amount of nourishment they contain.

8. **Preserved Meats.**—Large quantities of preserved meat are now sent from Australia and America, and for the most part are an economical and wholesome addition to our food supplies. In the process of *tinning* or *canning*, the meat is subjected to great heat, and is consequently rather over-cooked. On account of this, it is better to use it cold than made into stews or hashes. Any broken pieces, however, may be minced, seasoned, and baked; and mutton, especially if very fat, is good when curried.

QUESTIONS.

1. Explain the proverb 'Wasters come to want.' How do you know fresh meat?
2. Which are the best parts? How can the coarser parts be made into food? What should we remember in choosing meat? What objections have you to a neck of mutton? Of what use can the bones be in cooking?
3. How much meat ought we to buy at once? Why? How would you manage a piece large enough for three days? Name the cheapest parts of meat.
4. How long ought meat to be kept in the house before using? Why should we wash meat bought from the butcher? How can we make new meat tender?
5. How do you cure tainted meat?
6. How long should beef and mutton be allowed to lie in salt? How long should pork lie?
7. What must we notice in choosing ham or bacon? Compare ham and beef as articles of food.
8. Why is it best to use tinned meats cold? How otherwise may they be prepared?

II.—HOW TO CHOOSE FISH AND POULTRY.

1. **Fish.**—The smell is the best test that a fish is fresh. The eyes should be full and bright, the gills of a bright pink, and the flesh firm. The inside must be carefully taken out, and the fish well washed in several waters, particularly about the mouth and head. Fish is better to be cooked as soon after it is caught as possible. If it is to be kept overnight *uncooked*, the inside should be taken out, the fish wiped clean with a cloth, and left unwashed till

just before cooking. Haddocks may be dried and kept for some days. The fish is cleaned and hung up in the open air, and cooked by frying or boiling. Herrings, if not used fresh, may also be preserved for a day or two; the fish is split open, and the backbone removed. It is then spiced with pepper and a little salt, and hung up to dry. It is cooked by frying. Kippered, smoked, and salt herrings are commonly used, and are cheap, but not so cheap as fresh fish in proportion to the nourishment they contain. In choosing salted ling or cod, it is well to take as thick a fish as possible, as the flesh is softer and has more flavour in it than that of long thin fishes. Ling is generally very salt; and unless much of the salt is removed, it would be unwholesome as food. It should be cut into pieces, and soaked in cold water for three or four days before being cooked. The water ought to be changed several times, and the skin of the fish should be kept down next the bottom of the basin. It ought to be plunged into fast-boiling water, and then simmered slowly for half an hour. Only when prepared in this way, and eaten with butter or egg sauce, is it at all a nourishing article of diet.

2. **Poultry, &c.**—Many rules are given for knowing when fowls are young, and consequently tender and good for food. The breast-bone should be pressed at the end where the opening is made to clean out the inside; if it is soft, like gristle, the fowl is young. In young fowls, too, the spur is like a very short small thorn. Fowls with white legs have purer flesh than those with gray or black legs. In young ducks and geese, there should be but few stubs of feathers, and very little down on the skin. The skin ought to be fat, and the feet limp. In young rabbits, the claws are smooth and sharp, and the teeth very small.

Fowls should be kept for at least ten days in winter (four or five in summer) before being eaten. The fowl ought to be hung up by the feet, and the head wrapped in paper to prevent the blood from dripping. The feathers ought to be left on till just before the fowl is wanted. The soft feathers must first be plucked off, and all the hard-pointed quills pulled out. The long hairs ought then to be singed off with a piece of lighted paper. The inside should next be taken out, great attention being paid not to break the gall-bladder, which is very bitter, and, if broken, would taint the whole of the flesh. The neck must then be cut off, and the fowl washed in cold water. To truss a fowl—that is, to make it ready for cooking, is a difficult thing to learn even from sight, and quite impossible to learn from written directions.

QUESTIONS.

1. What are the signs of fresh fish? Give directions for cleaning a fish. Tell how haddocks are dried. How do you preserve herrings?
2. What is the comparative value of fresh and salted fish as articles of diet? How do you know a young fowl? How can you tell a young rabbit? Give directions for preparing a fowl for cooking.

III.—COOKING OF MEAT.

There are six ways in which meat of different kinds may be prepared—*stewing*, *boiling*, *roasting*, *baking*, *broiling*, *frying*.

1. **Stewing.**—All coarse or dry pieces of meat should be stewed, as, by that means, they can be made as nice and digestible as the better parts. The secret of good stewing is long *slow* cooking in a vessel with a close-fitting lid. The easier way of stewing is to use a jar or double saucepan. The meat, cut into convenient pieces and well seasoned, is put *without water* into either jar or saucepan, along with any vegetables (except cabbage), and covered closely. If a jar be used, it must be placed in a saucepan with water (either cold or hot); if a double saucepan, the under part ought to be half-filled with water—which must boil for at least four hours, the supply of water being kept up from time to time. The meat is cooked in its own gravy, without waste of flavour or substance, and is never dried up or burned. If stewing be done in a simple saucepan, the meat and vegetables, with only a little water, must be kept simmering (never allowed to boil), and the lid of the pan ought to remain on till the stew is ready, the pan being frequently shaken to prevent the

contents sticking to its sides or bottom. The gravy of stews may be thickened with rice, macaroni, flour, and the like.

2. **Boiling.**—In order to keep all the strength *in* the meat, it should be put into sufficient boiling water to cover it, and then gently simmered all the time it is cooking, care being taken to remove the scum from time to time. For beef and mutton a quarter of an hour to each pound, and a quarter of an hour over, is generally allowed, and for veal or pork twenty minutes to the pound. Vegetables which are to be eaten with boiled meats may often be boiled with them; cabbage is an exception, as it has too strong a flavour to be cooked with any meat. Vegetables meant to be served separately, are, however, usually boiled separately. The liquor in which meat has been boiled should never be thrown away, as it can be made into soups and gravies. It should be turned into a basin and allowed to cool uncovered. If meat is boiled in order to extract its flavour and nourishment, it should be put into *cold* water and very gradually brought to the boiling-point, and afterwards allowed to simmer slowly. The scum must be taken off *before it boils*, or it will boil down and thicken and discolour the soup.

Here it may be well to say a word regarding the value of soup in our daily diet. In making soup, as well as in stewing, one may use the coarsest and most sinewy pieces of meat, and obtain the full value of the materials used. Bones, too, of flesh and fish may be used with advantage; and vegetables alone, with the addition of a little fat of any kind, make excellent soups. Thus, soup is made of various kinds of foods, and has in itself the qualifications of a *mixed diet*, which is so wholesome, indeed necessary to good health.

3. **Roasting** is one of the most wholesome ways of cooking meat. Meat to be roasted is hung up in front of a fire and kept turning round constantly, either by means of a 'jack' or a few twisted worsted threads, or any other contrivance which answers the purpose. Or the meat may be put in an oven before the fire, and turned from time to time. The fire must be clear and the hearth well swept, so that there is no occasion to make a dust while the meat is being cooked. The joint should be put close to the fire for the first ten

minutes, to close up the pores of the meat and keep in the juices. It must then be removed about ten inches from the fire, and have a tin screen placed behind it to prevent the cold air from carrying away the heat of the fire; or a wooden screen with a towel over it will do just as well. The outside fat soon begins to melt, and the joint should be basted with the hot fat or dripping every now and then. This helps to cook the meat, and prevents it from burning. In roasting veal or fowls in which there is but little fat, dripping or butter must be added for basting purposes. In roasting, twenty minutes are generally allowed for each pound, and twenty minutes over; should there be much gristle, longer time is required.

4. **Baking** has apparently the same effect on meat as roasting; but from the close confined air of the oven, baked meat is not so wholesome as that which is roasted. Pies and some puddings are baked; and an oven is useful for warming up cold meat covered with gravy, or for baking potatoes and other vegetables.

5. **Broiling** is in reality roasting on the top of the fire. It is rather a difficult thing to do well, and requires much practice. A clear fire and a clean gridiron are necessary. The gridiron should be heated, and the meat or fish put on it with a spoon and knife. A fork must not be used, as the juice of the meat would run out of the holes made by the prongs. A chop or steak should be cooked in about twelve minutes, if turned every two minutes. No exact rule as regards the time required can be given, however. Salt must not be put on broiled meat until it is dished, and then only very little, with a sprinkling of pepper. Any small pieces of meat, fowls, or fish may be broiled.

6. **Frying** is simply boiling in fat. It is not an economical way of cooking, but it is quickly done, and is often useful on that account. The great art in frying is to have the fat hot enough, and to have the food covered with the fat. The best way to find out the proper degree of heat is to put a piece of bread into the melted fat, and if it becomes nicely browned in rather less than a minute, the fat is ready and will brown the food too. The fish or meat which is to be fried must be

very dry, dredged with flour, or dipped in a beat-up egg and then in bread-crumbs, plunged into the hot fat, and allowed to brown for about five minutes. The pan should then be lifted on to the hob (or hung on the chimney crane, if there is one) till the meat is thoroughly cooked. Probably eight or ten minutes may be needed, but this depends on the size of the pieces. When anything fried is taken out of the fat, it should be laid on paper to drain for a minute or two. (The fat, if carefully strained, may be used many times, a little fresh lard or dripping being added now and again to make up for what has been absorbed by the food fried in it.) Ham or sausages, or anything which contains much fat, is not fried in this way, but is generally put into the warm frying-pan *dry*, or with only a very little dripping, just to keep it from sticking to the pan until the fat in itself melts. This fat is sufficient to cook it. Great attention must be paid in order to hinder fat from burning, as it then becomes most indigestible and unwholesome.

QUESTIONS.

1. Name the different ways of cooking food. Name different ways of stewing. Which is preferable?
2. Give a rule as regards time for boiling beef and mutton. Why do we not boil cabbages along with meat? Why not throw away the liquor in which meat has been boiled?
3. Into what kind of water would you put meat to bring out the juice? Why? How does soup provide us with mixed diet?
4. Name different methods of roasting. Why do we first put the joint close to the fire and then draw it back? What is 'basting,' and why is it done?
5. What kinds of food may we cook in the oven?
6. Give directions for broiling a steak. Why not use a fork?
7. How do you know when fat is ready to fry in? How do you prepare a fish for frying? How do you fry sausages?

IV.—VEGETABLES.

It is of the utmost importance that all vegetables be *fresh.* If they are allowed to wither or get limp, they are unwholesome, and cannot be made digestible, even by the greatest care in cooking.

1. **Cabbages** should be hard and white in the heart. Cauliflower should also be solid and firm; it is not good if the flower is irregular and running to seed. The same may be said of broccoli. These vegetables, and others like them—Brussels-sprouts, savoys, and turnip-tops—may be kept for a day or two on a clean dry stone-floor, where there is plenty of air; but, as a general rule, they are much better to be used on the day that they have been cut. They ought to be soaked in salt and water, to kill any insects which may be about the leaves, and then boiled in plenty of water, with a little salt. The lid of the pan should not be put on. The stalks of cabbages, &c. ought to be split up, so that they may be cooked as soon as the green part. From twenty to forty-five minutes are required to cook most vegetables of this kind, but the time depends very much on their age. (The water in which green vegetables have been boiled must *never* be emptied into the sink; it should be thrown on the earth or into a sewer outside the house.)

2. The best **potatoes** are those with rough skins, either red or white. Potatoes may be cooked in different ways—peeled or unpeeled—boiled, steamed, fried, or baked. Generally, however, it is most economical to boil potatoes in their skins. They ought to be well washed, and put into a pan, with plenty of cold water and a handful of salt. They should boil gently, and the water must be strained off whenever they are cooked. Then they should be dried or left to steam at the side of the fire for about five minutes. New potatoes must be put into boiling water.

3. **Carrots** and **turnips** should be firm to the touch; and the grain of both should be fine. Carrots, when fresh, are easily scraped. They ought to be put into boiling water, with a little salt, and boiled gently for an hour or more, according to size; or they may be cut down, put into a jar, and either stewed or baked in their own juice. Turnips must be thickly peeled, and boiled in plenty of water and a little salt. **Beet-root** ought to be of a dark colour. It is washed before cooking, great care being taken not to break the skin. Should the skin be scratched, the red juice escapes, and the beet-root has a pale sickly colour when cooked.

The roots should be put into boiling water, and simmered for an hour and a half. The skin then comes off readily, and the beet-root may be sliced and is ready for table.

Potatoes, carrots, turnips, and beet-root may be kept fresh long after being taken out of the ground, if they are put in a dry airy place. If potatoes are to be stored for winter use, they may be put up in heaps out-of-doors, with straw under and over them, and a layer of earth above the straw, so as to protect them from frost; or, if under cover, they may be packed close in barrels or boxes, and covered with old matting or carpet. Carrots ought to be packed in dry sand, if required to keep over winter. Turnips will keep good, if protected in any way from the frost.

4. Pointed reddish **onions** are almost always stronger and less tender than flat, round, pale-coloured ones. Onions may be kept for months, either strung together and hung up, or in netted bags made for the purpose. If any begin to sprout, they are unfit for use. Small British onions are seldom used as a vegetable by themselves. More frequently they are cooked with meat, and in soups and stews as a flavouring. The large Portugal onions are very wholesome when properly cooked. They should be put into boiling water, and slowly boiled for about two hours, thoroughly strained from the water, and eaten with butter sauce, or any kind of gravy.

5. **Peas** and **beans** should not be taken out of the pods till they are to be cooked. Young peas may be easily known, because the tiny stalk by which they are attached to the pod remains on them when they are young, and sticks to the pod when they are old. In old peas the skin is tough and indigestible, and should not be eaten. The peas then make excellent soup, and the tough skins can be kept back by passing the soup through a colander.

6. **Parsley** should only be used when very fresh. The more its leaves are curled, the better is its flavour. In winter it is almost impossible to get fresh parsley, so it is a good plan to gather a supply in summer, when it is plentiful and cheap. The leaves should be taken from the stalks, dried in a moderate oven, rubbed down with the hands or pounded in a mortar while hot, and put into bottles, which

must be kept well corked. Other herbs, such as sage and mint, may be preserved for winter use in the same way.

7. A few words may be added with regard to preserving fruit and pickling vegetables.

Preserves.—Jams and jellies of all kinds are now commonly sold by grocers. They are cheap, but are as a rule inferior to those made at home. The fruit should be gathered dry and before it is thoroughly ripe. The sugar for preserves ought to be of the best quality—crushed lump-sugar—and sufficient in quantity—¾ lb. or 1 lb. to 1 lb. of fruit or juice. Pots of preserve should be carefully covered with paper and kept in a dry place.

8. **Pickles.**—The chief thing to attend to is to have sound vegetables and the best quality of vinegar and spice. Vegetables must be carefully trimmed and wiped, those only being washed which are to be steeped or parboiled before they are pickled. It is well to use stoneware instead of metal vessels in preparing pickles, as the vinegar acting on iron or brass often gives a disagreeable taste. Pickles ought to be kept in glass bottles or stoneware jars, and so corked as to exclude the air entirely.

QUESTIONS.

1. Give general directions about vegetables. How can you keep them fresh?
2. What is the most economical way to cook potatoes? Give directions for boiling them. How do you store potatoes for winter use?
3. Give full directions for boiling carrots and turnips.
4. How do you preserve onions? Give directions for cooking Portugal onions.
5. How do you know young peas?
6. Tell how to keep parsley for winter use.
7. When should fruit be gathered for preserves? How much sugar should be allowed to each pound of fruit?
8. Why are stoneware vessels best for preparing pickles?

V.—BREAD.

Bread is either made by the baker or baked at home. Home-made bread has the advantage of keeping fresh for a longer time than baker's bread. It can be made either fermented or unfermented (with yeast, or with soda and tartaric acid, or baking powder).

1. **The Flour.**—For those who bake their own bread, it is economical to buy flour in a large quantity, care being taken to keep it in a dry place, firmly pressed together, and as air-tight as possible. Household flour or seconds is the most nutritious. To test its quality, a little should be squeezed in the hand, and if it retains the impression of the hand, one may be certain it is pure and freshly ground.

2. **Fermented Bread.**—Put 7 lbs. flour and a small handful of salt into a bread-pan slightly warmed, and mix well together. In a small basin put 2 oz. German or dried yeast, a pinch of sugar, and 4 or 5 potatoes well-boiled and rubbed through a colander, and add by degrees about 1 pint of warm water. Make a hole in the middle of the flour and pour in this thin batter, gradually mixing with it one half of the flour in the can. Then sprinkle a little dry flour over the top, cover the pan with a towel, and set it near the fire to rise, for 1 or 1½ hours—the time required depends on the season and state of the yeast. This is called *setting the sponge.* When the batter has risen enough to make cracks in the flour, make the dough by mixing all together, adding as much warm water or milk and water as may be required. Knead it well, make into loaves, and bake either on a well-floured iron plate or in tins. In both cases, it should be allowed to rise further in a moderately warm place for at least two hours before being put into the oven. Prick the tops of the loaves to allow the steam to escape freely. Care must be taken that the oven is of a right heat. Sprinkle a little flour on the bottom shelf, and if it is of a nice brown colour in a minute, the heat is sufficient; if burned or not

coloured, it is either too hot or not hot enough. Loaves should be put on the bottom shelf of the oven *first* till they rise well, and then lifted on to the top shelf to allow the upper crust to get brown and crisp. When a loaf is taken out of the oven, it should be turned upside down or put on its side, so that the steam may escape from the bottom, which is never so hard as the top crust.

3. **Unfermented Bread** is generally made in the shape of flat cakes (or 'scones') baked on a griddle or thick iron frying-pan, or as small rolls baked in the oven. The following receipt is good, but it may be modified according to circumstances: Make a light dough of 3 lbs. flour and 1 pint (or more) of buttermilk, having first mixed ½ oz. carbonate of soda, ½ oz. tartaric acid, and ½ oz. salt with the dry flour. Roll out about half an inch thick, cut into convenient pieces, and bake at once either on a griddle or in a moderately hot oven. Biscuits are also unfermented bread.

QUESTIONS.

1. How can one guess if flour be good and fresh?
2. How is fermented bread made? When is the oven hot enough?
3. Give a good plan for baking unfermented bread.

VI.—TEA, COFFEE, AND COCOA.

Tea and coffee are not properly food; but they form so regular a part of most people's daily meals, that it is of great importance to know how to make them rightly.

1. **Tea.**—Much of the tea used in this country is wasted from not attending to one or two important points in its purchase and preparation. Tea of good quality is the cheapest in the end; indeed, even broken leaf of the best tea is more economical and satisfactory than the medium and cheaper kinds. Tea is best made in an earthenware pot, which must be thoroughly warmed before the tea (one teaspoonful to each person) is put in; and the water, soft if possible, ought to be freshly boiling. The tea-pot should then be kept hot for from five to fifteen minutes, according

as the water is soft or hard. This may be managed either at the fire (care being taken that the tea does not boil) or by means of a 'cosy' or woollen cover made for the purpose. The pot ought to be at once emptied of the leaves after each time of using, washed out with hot water, dried inside as well as outside, and put away with the lid open. A damp or *furred* tea-pot spoils the flavour of the finest tea.

2. **Coffee,** freshly ground and mixed with chicory in the proportion of one part of the latter to four of the former, is best *infused*, like tea, and not *boiled*, as is too usual. The coffee-pot should be made hot, the coffee put in, the boiling water added, and the pot left near the fire for five or ten minutes. The coffee must be poured out carefully, so as not to stir up the grounds. It is of great advantage to use coffee-pots with a little strainer in the middle, upon which the coffee rests, and through which the boiling water passes into the lower part, thus making a strong infusion of coffee, clear and free from grounds. These coffee-pots are cheap and very easily managed.

3. **Cocoa and Chocolate.**—The cocoa or chocolate should be dissolved with a little sugar and boiling water, then added gradually to more hot water or milk, and simmered gently for about five minutes. Directions are always given as to *quantities* along with the packets of cocoa or chocolate.

QUESTIONS.

1. How should tea be infused?
2. How should coffee be prepared?
3. How is cocoa dissolved?

VII.—COOKING UTENSILS.

1. **Necessary Utensils.**—There are many kinds of utensils now in use which lessen the work of the cook, but are by no means necessary. In fact, forethought and ingenuity enable one to do all kinds of cooking, the difficult as well as the simple, without their help, and with comparatively few king utensils of any kind. Those found in almost every

kitchen are all that are really needed. That they should be kept clean is essential.

2. **Saucepans.**—A few cautions on this subject may be useful. Iron saucepans without tinning inside are by far the most economical kind. They cost less to begin with than any other kind, last for many years, and if thoroughly scoured with sand and well dried before being put aside, look better every year, because they become quite polished. Saucepans which are tinned inside must be used with great care—no food should ever be allowed to stand and get cold in them, as the tinning often contains lead, which is poisonous; again, if one of these pans is put on the fire only half-full, the tin is apt to melt and run down the sides and settle in lumps on the bottom. Here there is also a risk of lead-poisoning, besides the unpleasantness of the pan being rough on the sides and bottom, which increases the difficulty of cleaning it. Enamelled pans, which look as if they were lined with white china, are also somewhat dangerous, as they may contain substances which, like lead, poison any food that is allowed to grow cold in them. There is also some risk in using brass or copper pans, because a poison called verdigris forms when the food in them grows cold. Enamelled or brass pans, however, should be used for preserving or boiling fruit, as the acid in most fruit, acting on an iron pan, would give a disagreeable taste, and spoil the colour of the fruit. On the whole, plain iron pans are the best for common use; they are safe—even slight rust does not make them unwholesome—and they are more easily and quickly cleaned than other kinds. What has been said of saucepans may be strongly urged with regard to frying-pans; a plain iron frying-pan is greatly preferable to one which is either tinned or enamelled.

QUESTIONS.

1. What is essential in the use of cooking utensils?
2. What could you say in favour of iron saucepans? What objection could you bring against pans lined with enamel or tin?

APPENDIX.

RECEIPTS.

NOTE.—The following receipts are not by any means intended to supersede the ordinary Cookery Book—such, for example, as Chambers's *Cookery and Domestic Economy for Young Housewives*—but are added to illustrate some of the lessons given in the chapters on food.

SOUPS.

1. **Barley Broth.**—2 lbs. shin of beef or neck of mutton; 8 pints water; 4 or 5 onions; 1 turnip; parsley; ½ lb. barley (or less); 2 carrots; 3 or 4 leeks.

Put the water, meat, and barley into the pan. Bring slowly to the boiling-point, and remove the scum carefully. When the broth boils, put in the vegetables cut up very small, and simmer the whole slowly for 4 hours. Add pepper and salt, and a little parsley shred fine, a quarter of an hour before serving.

2. **Pease Soup.**—8 pints water; 6 onions; 1½ lbs. split peas; 2 oz. dripping; 1 carrot and turnip (if liked); ½ tea-spoonful carbonate of soda.

Put the water, peas, and soda into a pan. When the water boils, add the vegetables and dripping (or a marrow-bone, or any bones of cooked meat). Simmer for 3 hours. If liked smooth, it may be passed through a colander before being dished. (Soup may be made of haricot-beans in the same way.)

3. **Lentil Soup.**—1 pint split lentils; 2 carrots; 1 oz. butter; 4 pints water; 1 onion.

Melt the butter in a saucepan, and with it brown the vegetables (cut small). Then add 4 pints water and the lentils. Simmer 1½ hours. Slightly thicken with flour. Serve with toasted bread, cut into dice.

4. **Milk Soup.**—4 large potatoes; 2 leeks; 2 onions; 2 oz. butter; 2 pints milk; 3 table-spoonfuls of crushed tapioca.

Cut down the vegetables, and put them into a saucepan with 3 pints of boiling water. Simmer for 1 hour, rub through a colander, return to the saucepan, and add the tapioca and milk. Simmer 15 minutes; add the butter and season to taste just before dishing.

5. **Bread Soup.**—4 pints stock or water; broken bread; 1 egg; 2 oz. grated cheese.

Put a plateful of broken bread along with 4 pints of stock or water into a saucepan, and boil till in a pulp (about 1 hour). Beat up 1 egg in the tureen, add 2 oz. grated cheese, and pour the soup in gradually, stirring all the time. Season to taste.

6. **Potato Soup.**—2 lbs. potatoes; 2 pints milk or stock; 1 oz. butter or dripping.

Boil the potatoes, and mash with a fork. Then mix with the milk or stock. Strain through a colander. Return to the saucepan. Add the butter or dripping; season with salt and pepper. Boil up, and serve with toast cut into dice.

7. **Vegetable Soup.**—6 onions; 3 carrots; 2 turnips; 2 leeks; 4 oz. broken bread; 3 oz. dripping; 6 pints water.

Cut up the vegetables very small; brown in a saucepan with the dripping. Add 6 pints of boiling water and 4 oz. broken bread, and simmer for 2 hours. Season to taste.

STEWS, ETC.

8. **Toad-in-the-Hole.**—4 oz. flour; 1 egg; ½ pint milk; ½ lb. sausages, or any cold meat.

Put the sausages or pieces of cold meat in a buttered tin. Pour over them a batter made with the flour, milk, and egg; seasoning with salt and pepper, according to taste. Bake 20 minutes in a quick oven.

9. **Sea-pie.**—1½ lbs. steak; 2 leeks; 2 carrots; 1 turnip; 2 onions; ½ lb. flour; ¼ lb. suet (minced); ½ tea-spoonful baking-powder; ½ tea-spoonful salt; ½ tea-spoonful pepper.

Cut the steak in small pieces and lay in the bottom of a stew-pan. Season with salt and pepper. Add the vegetables, cut in slices; season also with salt and pepper. Pour in ½ pint of cold water. Make a stiff paste with the flour, suet, baking-powder, salt, and pepper, and as little water as possible. Roll out exactly the size of the stewpan. Fit closely above the vegetables. Simmer for 2 hours, keeping the lid of the pan closed.

10. **Brazilian Stew.**—1 lb. shin of beef; onions and leeks; carrots and turnips; celery.

Cut up the meat (*across* the grain). Dip each piece in vinegar, lay in a saucepan. Cover with the vegetables, cut in convenient pieces. Stew for 2 hours, keeping the lid firmly on, and shaking the pan from time to time.

11. **Ox-Cheek stewed.**—1 ox-cheek; 1 cow-heel; 6 onions; 3 carrots; 1 oz. dripping; 2 table-spoonfuls flour.

Cut up the ox-cheek, flour the pieces, and put them with the dripping into a saucepan to brown; cut up the vegetables and the cow-heel, put them into the saucepan, adding water, 1 pint to each pound of meat. Season to taste with salt, pepper, ketchup, &c. Cover close, and let all simmer slowly for 3 hours. Thicken the gravy with 2 table-spoonfuls of flour, about 10 minutes before dishing.

12. **To prepare Curry.**—Put 1 oz. butter into a stewpan, with 2 onions sliced. Fry until the onions are nicely browned, then add a table-spoonful of curry-powder. Stir well together, and add gradually ½ pint stock or hot water. Thicken with flour to the consistence of *thick* cream. Season to taste. A tea-spooonful of vinegar, or a little buttermilk or sour cream, is a great improvement. Meat, fish, or vegetables may be curried. Cut into small pieces, they are put into the hot curry, and simmered for 10 or 15 minutes if cooked before, or for as long as may be needed for complete cooking.

Curry should be eaten with rice boiled in water, and steamed before dishing, in order that the grains of rice be separate and dry.

13. **Haricot-beans.**—1 lb. haricot-beans; 1 oz. butter, dripping, or lard; 1 onion; water; seasoning.

Put the beans to soak in cold water the night before they are required. Then put into a saucepan with plenty of cold water and a little salt. After the water boils, the beans should be slowly simmered for about 3 hours. Slice a small onion, and fry with the butter. Strain the beans, and put them in the frying-pan. Shake well to prevent them from burning, and serve when of a light-brown colour.

PUDDINGS.

14. **Savoury Rice.**—½ lb. rice; 1 pint skim-milk; 2 oz. grated cheese.

Boil the rice in plenty of water for ½ an hour. Strain off the water. Add 1 pint milk and 2 oz. grated cheese, salt and pepper to taste, and simmer very slowly for ½ an hour.

15. **Macaroni and Cheese.**—2 oz. macaroni; 2 oz. grated cheese; ½ oz. butter.

Break the macaroni into pieces of 3 inches or so. Put into a saucepan with plenty of boiling water, and simmer for ¾ of an hour. Add salt. Strain it when quite tender; lay it on a dish; put the grated cheese over it; add the butter in small pieces. Brown it in the oven or in front of the fire.

16. **Baked Rice Pudding.**—2 oz. rice; 1 pint milk or water (or milk and water mixed); 1 oz. suet (finely shred); 1 oz. sugar.

Wash the rice in two waters; put it in a pudding-dish; add the milk, suet, and sugar; stir all well together, and bake in a very slow oven 2 or 2½ hours.

17. **Plum-pudding.**—1 lb. flour; 1 lb. suet (finely shred); 1 lb. sultana raisins or currants; ½ lb. raisins (stoned and cut in halves); ½ lb. sugar; 4 eggs, and a little milk; 1 tea-spoonful baking-powder; spice.

Mix thoroughly all the dry ingredients, and add the eggs, well beaten, and sufficient milk to make a *thick* batter. Tie up in a floured cloth, plunge into boiling water, and boil for 4 hours.

18. **Brown Betty.**—1 lb. apples; 1 oz. suet (finely shred); 2 oz. sugar; 1 thick slice of bread; 4 table-spoonfuls water.

Into a jar put the bread broken in pieces, add the water and suet. Pare and cut down the apples, and place them above the suet. Lastly add the sugar. Cover the jar with paper, and put it into a saucepan with water. Boil for 2 hours. Should the water in the saucepan boil away, more must be added to keep the jar from cracking.

Rhubarb may be used instead of apples.

SICK-ROOM COOKERY.

19. **Beef Tea.**—1 lb. lean beef; 1 pint water.

Remove from the meat all fat, skin, or gristle; cut up in small pieces; put in a jar with the water (cold) and a pinch of salt; let it stand 1 hour, then put the jar into a pan of boiling water, and boil for 2 hours.

20. **Barley Water.**—2 oz. pearl barley; 2 quarts water; lemon and sugar (to flavour).

Wash the barley in plenty of water, strain and boil for 5 minutes in another water. Strain again, and put into 2 quarts of boiling water, which must simmer till reduced to 1 quart. Squeeze the juice out of a lemon, and add it to the barley water with a little sugar.

21. **Oatmeal Gruel.**—1 dessert-spoonful oatmeal; 1 pint water; ½ oz. butter. Salt to taste.

Mix the oatmeal with a very little cold water, then add gradually 1 pint of boiling water. Stir it up quickly; stand for a minute till the coarse particles settle. Pour off carefully all the top, leaving the thick behind. Boil up quickly for 10 minutes. Add the butter and salt, or sugar if preferred.

22. **Lemonade.**—Peel 1 lemon very thinly, remove all the white pith, put the rind and the lemon cut in slices into a jug, and pour over it ½ pint boiling water. Keep closely covered till cold. Strain and sweeten to taste.

23. **Wine Whey or Treacle Posset.**—Into ½ pint boiling milk pour ½ gill wine or treacle. Let it stand 5 minutes. If wine has been used, pour off the whey and drink hot.

24. **Custard Pudding.**—1 egg; 1 tea-cupful milk; sugar to taste.

Beat up the egg well, add the milk and sugar, and put into a jar. Cover with paper, and place in a saucepan with boiling water. Boil 20 minutes.

THE END.

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